RAILROAD

MAGAZINE

25¢

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P300

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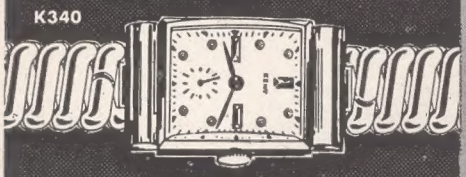

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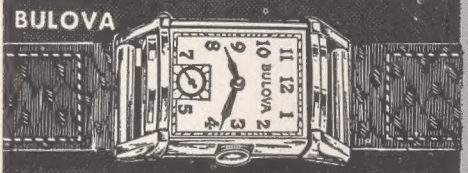

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THIN GILLETTES ARE ALWAYS LIKE THAT . . . PLENTY KEEN AND LONG-LASTING

. . . AND TODAY, AT LONG LAST, WE FOUND THE MISSING HEIR. HIS NAME . . . LARRY RICHMOND!

GREAT STORY . . . WHY, THAT'S ME!

EXTRA! PLANET REPORTER MISSING HEIR!

THIS ALL SEEMS LIKE A WONDERFUL DREAM, MISS MORRIS

GWEN TO YOU . . . AFTER ALL, WE'RE FOSTER-COUSINS

HE'S SO HANDSOME

EXTRA! THIN GILLETTE SHAVE SCORES AGAIN!

THIN GILLETTES ALWAYS GIVE YOU SMOOTH, REFRESHING SHAVES THAT MAKE YOU LOOK IN THE PINK AND FEEL THAT WAY, TOO. THEY'RE THE KEENEST, LONGEST-LASTING BLADES IN THE LOW-PRICE FIELD. THIN GILLETTES FIT YOUR GILLETTE RAZOR TO A "T" . . . PROTECT YOU FROM THE SCRAPE AND IRRITATION OF MISFIT BLADES. ASK FOR THIN GILLETTES

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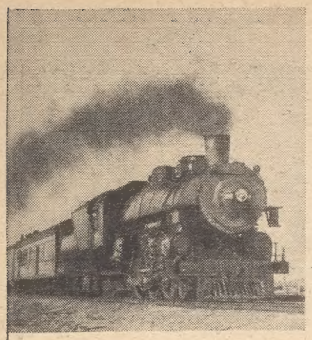

RAILROAD MAGAZINE

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July, 1947 ***Vol. 43, No. 2*** ***25 Cents***

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by Henry B. Comstock

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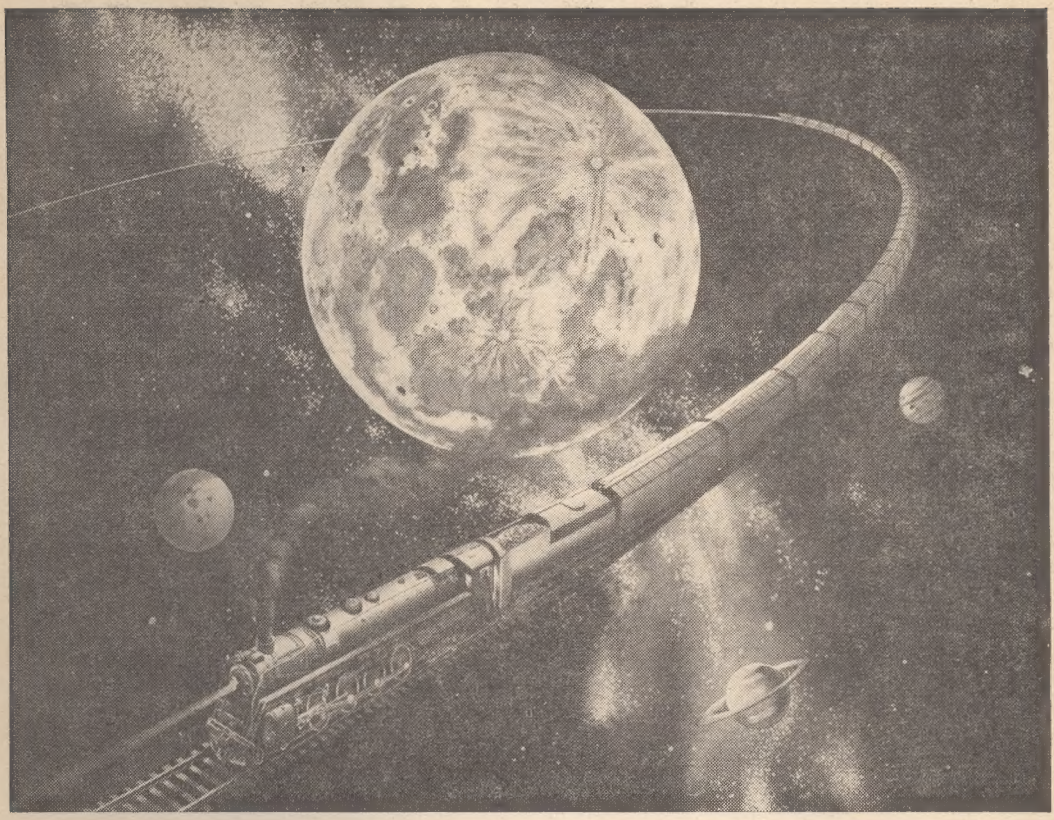


Round Trip to the Moon

● A ton of freight to the moon and back! That's one good way to measure the freight moved by American railroads in 1946 for *each* of the men and women on the railroads' payroll.

Working alone—with his bare hands—each one of these railroaders would have accomplished little. But working together and equipped with the right tools—cars and locomotives, tracks and stations, signals and shops—the immense job was handled efficiently and dependably. And it was done at a cost to the nation's shippers averaging only one cent for hauling a ton one mile.

To provide these essential tools, there has been invested nearly $20,000 per worker, furnished almost wholly by private funds. To improve these tools, there must be still more investment —which cannot be expected to continue unless railroads have a chance to earn reasonable profits on these funds.

But during the past twenty-five years—through boom years, depression years and war years—the railroads have averaged a return on their net investment of only 3¼%.

In 1947, even with the increased rates recently authorized by the Interstate Commerce Commission and with freight traffic continuing at its record-breaking peacetime level, railroads will probably earn only about half the 6% return which nine out of ten people think is no more than a fair profit, and which is necessary to attract continued investment in these essential railroads.

ASSOCIATION OF **AMERICAN RAILROADS** WASHINGTON 6, D. C.

New War Bonnet for the *Super Chief*

By V. ALMON LOCKABEY

FOR two days in October, Hollywood glamour gals sulked in the shadows of the Troc and the Derby, while photographers focused attention on a new, more blase prima donna who was making her western debut. In the limelight was D-51, Alco's 6,000 horsepower Diesel-electric, billed as the world's largest, most powerful—and certainly most photographed—locomotive.

The giant Diesel completed her maiden run from Chicago to Los Angeles on the head end of Santa Fe's Number 7, the *Fast Mail.* It was near dusk on the Mojave desert when I boarded the D-51 for a ride into San Bernardino, over one of the toughest sections of Santa Fe right-of-way. Frankly, I wasn't expecting much. As a stinger, I had ridden steam locomotives and Diesels over this stretch hundred of times. Waiting for a clearance and car of mail to be cut out, I interviewed top brass from Chicago, whose enthusiasm for the engine ran easily into superlatives. Why, I soon discovered.

Prowling through the dynomometer car just behind the locomotive, I found technicians busily checking speeds, stresses and strains. My eye traveled to the log which registered a maximum speed of 105 miles per hour. They say she's rated at 120.

I threaded my way past the banks of motors in the 196-foot triple unit. Every inch of her screamed power. In the cab Engineer C. J. McCormick and Fireman C. A. Pace were inspecting the controls. They had come out from Los Angeles on the *Chief* a few minutes before and were preparing to take the glamour job back. Conductor E. A. Mansker climbed aboard with a clearance card.

"We're an hour and thirty-three minutes, Mac," he said significantly looking at his watch. The veteran hogger nodded and whistled in his flag. A couple of lanterns raised and lowered in the twilight.

The world's largest locomotive rolled through the yard and past the tower. I settled back on the observer's seat, waiting for something new. On the curve Mac looked back and acknowledged a highball. At the first grade crossing, he switched on the red oscillating headlight. It probed the deepening desert dusk like a red admonishing finger; an approaching automobile would shy and halt suddenly like a skittish horse.

I glanced at the speedometer. Eighty-five miles an hour, although the yard-limit board was hardly out of sight. When we were approaching Lenwood, McCormick was calling for a clear board—with the whistle peddle under his foot. The brass pounder cleared the board and rushed out to see the big jack zip by.

Across the desert between Lenwood and Helendale we did ninety-five, laying into the 85-mile-an-hour curves like a baby carriage. Gone was the pounding, jostling and jarring. You couldn't get even the sensation of speed until someone opened a window and let in a blast of wind.

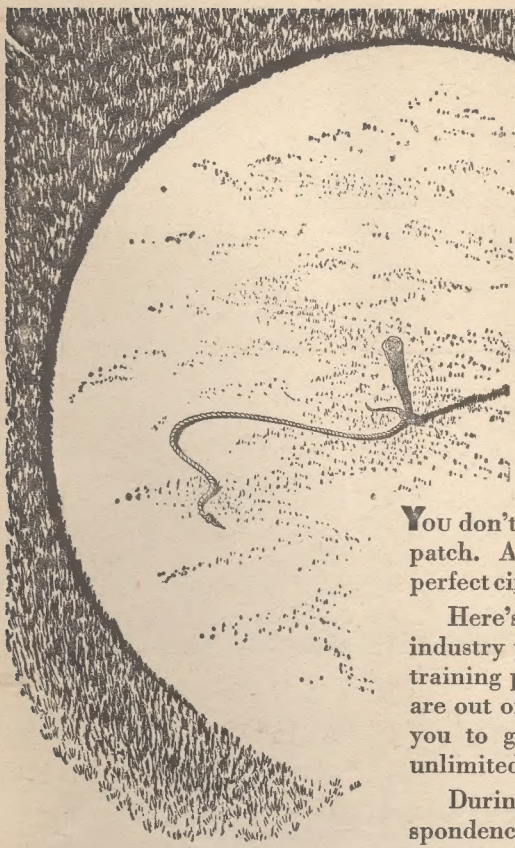
From her shack across the highway at Helendale Highballin' Gertie rolled us by as she has every train for twenty-five years. Tonight her tiny flashlight gave a more animated swing.

Nearing Victorville, Road Foreman Steneman took the controls. Walter set the air and pulled the train down to a crawl in accordance with the slow board. We maintained our snail's pace through Victorville to pick up the mail. A small group of rail-fans were gathered in front of the depot; we could hear their cheers. Signals of a freight crew spotting cars on the house track showed up, and Mac grimaced as his whistle failed to produce the desired effect.

There was no chance to run for the three percent grade; we were pulling 1,180 tons. But from a standing start, the Diesel was soon making fifty miles an hour. Climbing 85 feet to the mile we were gaining speed!

At Summit, the crew made the usual air test; then down the torturous grade of Cajon Pass when Mac began to use the dynamic brake.

I left the D-51 after she had glided to a stop in San Bernardino. Crowds and flashlights greeter her. For a while Engineer McCormick was kept busy displaying her gadgets; then the 450-ton Diesel was off again. Fifty-nine miles down the track she reached her goal, Los Angeles—end of the test run.



WHY THE CIRCLE IN THE GRASS?

You don't have to be a farmer to recognize this circular patch. A horse or cow tethered to a stake leaves a perfect circle of closely cropped, heavily trampled grass.

Here's the point: in many fields of business and industry you can go only as far as your education and training permit — *and no farther.* Most things beyond are out of reach. Only additional training can enable you to get away from the tether, can give you an unlimited area of opportunity.

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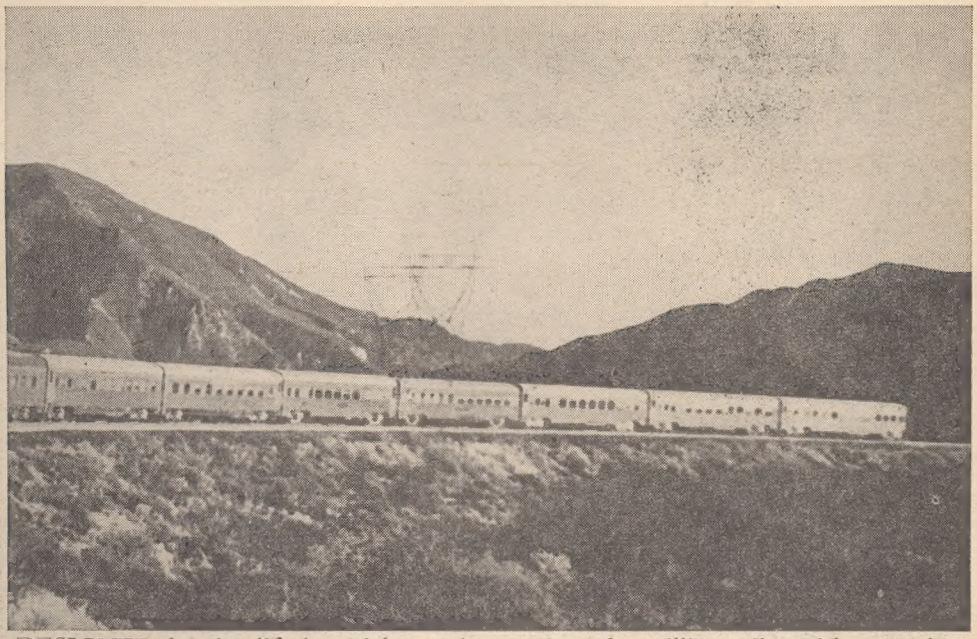
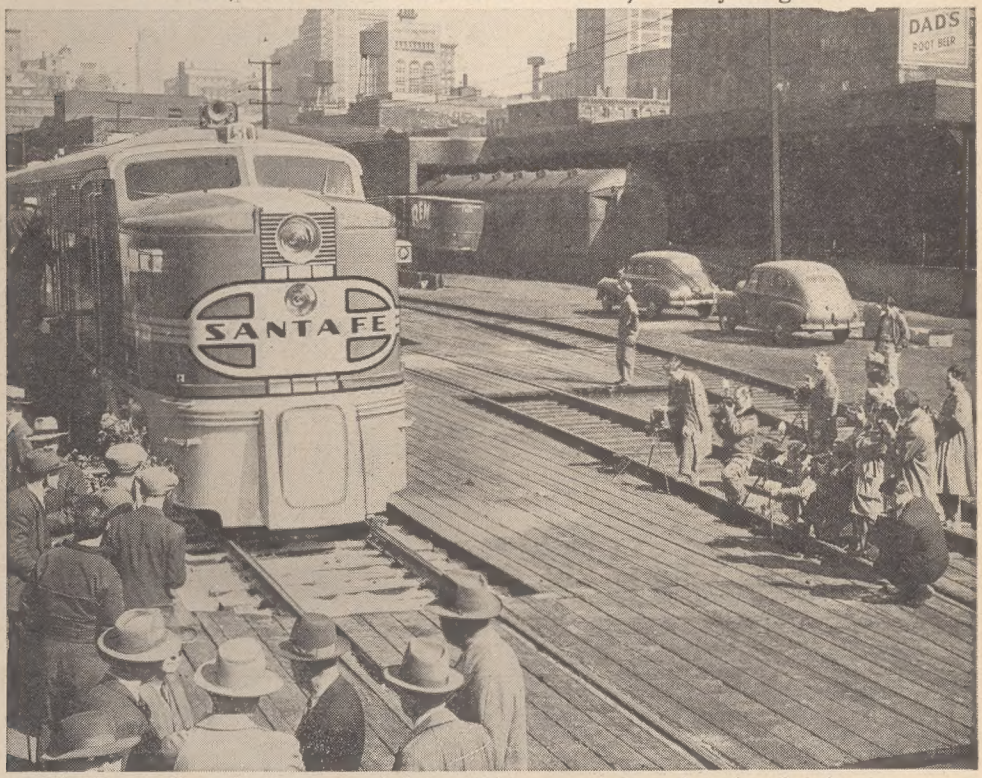
Camera Studies of the D-51, First of the Santa Fe's New Alco Fleet

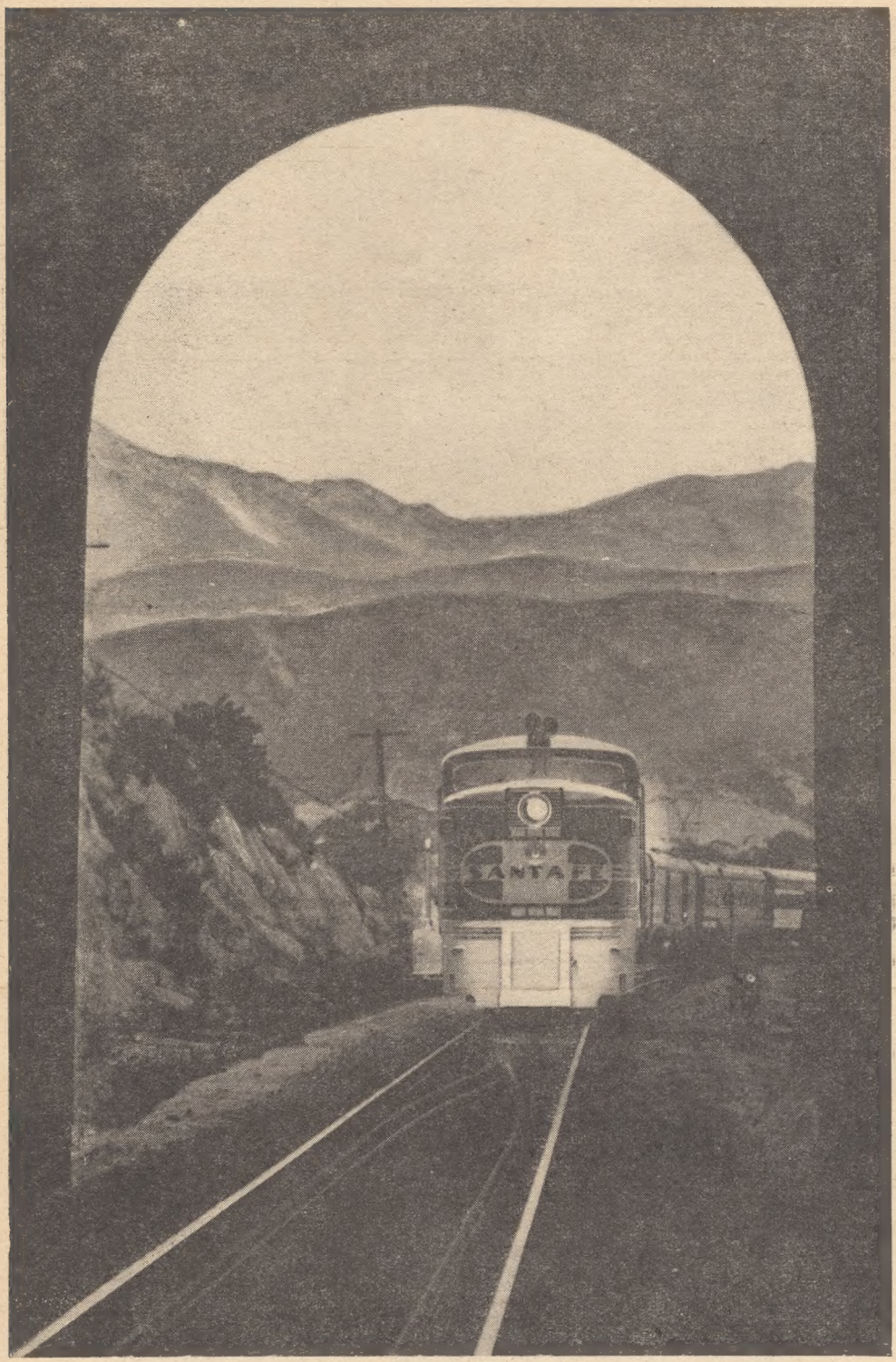
ALCO'S *6000* descending the 6½-mile single track through Cajon Pass. At *left*, eastbound gradient bends for a longer, easier mount to Summit



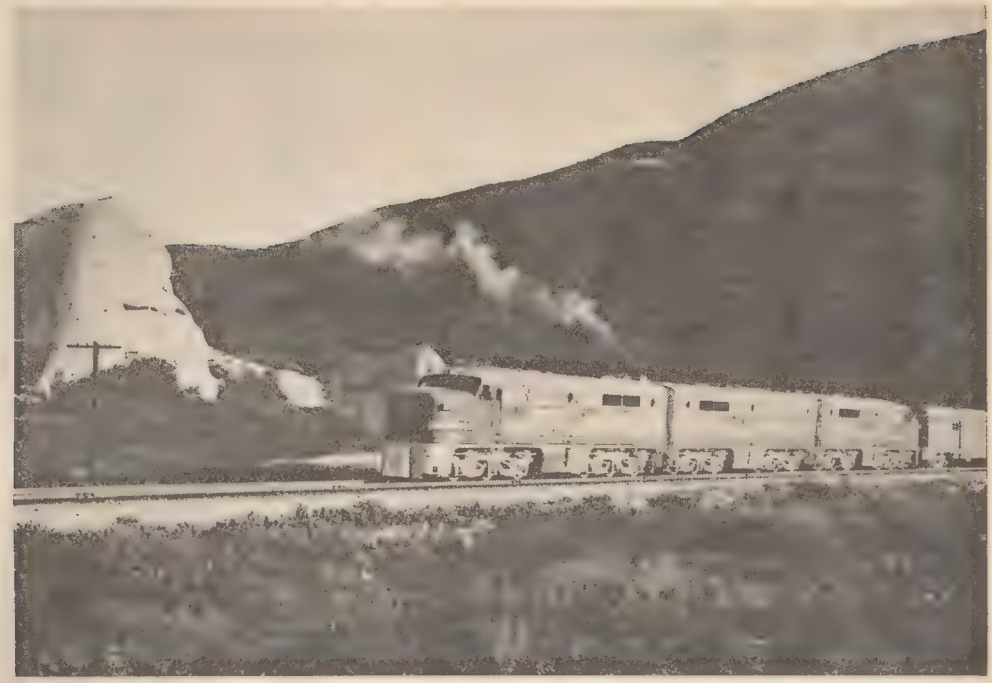
DESIGNED for simplified servicing and operation of a million miles without major overhaul, D-51 wins her laurels the hard way on Cajon's grades



PRIZES totaling $1,125, awarded in Chicago and Los Angeles for best camera portraits of Santa Fe's new Diesel meant crowds at every terminal



APPROACHING the Alray Tunnels in Cajon Pass



TWILIGHT falls on the San Bernardino Mountains, as D-51 rounds curved rail over Lytle Creek. Erupted rock in background is landmark of San Andreas earth fault

PREVUES of new power for ***El Capitan*** and the ***Chiefs.*** Success of Santa Fe's trials resulted in a company order for $3,000,000 in 6000 hp. Diesels

Father of High-Speed Trains

By FREEMAN H. HUBBARD

ONE RAINY NIGHT last July, while riding a redball freight with a friend, I swung down to the station platform at Harmon, New York, and in the semi-darkness watched the quick change from electric power to steam. There by chance we saw a tall, pleasant, gray-haired man whom my companion introduced to me as C. B. Bronson, the New York Central's inspecting engineer. After a brief greeting we raced back to our caboose while Mr. Bronson boarded *The Southwestern Limited*.

The man we had just met was a recognized authority on steel rails. Later, when I heard that he had learned his trade from the late Dr.

Dudley Rails Brought Transportation Costs Down as Tonnage Went Up

Plimmon H. Dudley as a nephew of the old *maestro* and for eleven years his assistant, I sought out Mr. Bronson in an office near Grand Central Terminal to get a first-hand impression of his illustrious uncle. It seemed to me that *Railroad* readers would like to know more about the bearded genius with deep-set gray eyes who had made possible the operation of modern high-speed trains.

You won't find much on Dr. Dudley in any popular book, although Dudley himself authored a lot of technical literature concerning the rail. There are biographies galore of the Vanderbilts and Goulds, the Hills and Harrimans, the two Georges, Westinghouse and Pullman, and other industrial giants, but not of Plimmon Dudley. That is probably because the railmaster was as modest

as a leprechaun and kept himself too busy improving rails to seek publicity. Instead of capitalizing on his three great inventions—the dynamometer car to measure locomotive drawbar pull, the track indicator to record irregularities in the track, and the stremmatograph to determine stresses in rail caused by locomotives and cars—he freely turned these devices over to the railroad world for everyone's benefit.

This generosity was typical of Dudley, but it cost him the spotlight he didn't want anyhow. Although he honored the New York Central by serving as its consulting engineer on rails, tires and structural steel from 1880 until 1924, Dr. Dudley is not even mentioned in Ed Hungerford's 424-page history of that system, *Men and Iron,* while Robert S. Henry's more recent book, *This Fascinating Railroad Business,* confines Dudley's share of the fascination to ten words. And yet a Central president, the conservative A. H. Smith, declared:

"Dr. Dudley contributed at least as much as any other man to the development of American railroads. He was the first engineer to realize the importance of radical improvement in the track if the railroad was to be developed as it should be. Perhaps it would not be an overstatement to say that he did more than any other one man to confer upon humanity the boon of rapid, safe and economical transportation."

There is much truth in Mr. Smith's contention, but nobody can state with assurance which American did the most for railroading. A strong case could be made for Westinghouse, who invented the frog as well as the airbrake; for Mathias W. Baldwin, the locomotive builder, or for Robert L. Stevens, first president and chief engineer of the Camden & Amboy, who fathered the T-rail, now used on our country's 400,000 miles of rail road track. Certain it is that every American who travels or ships by rail owes a debt of gratitude to Plimmon Herman Dudley, E.C., Ph.D. If it had not been for the kind of work that he did in perfecting the rail, neither the merchandise hotshot I rode on the night I first met his nephew nor the express that swiftly conveyed Mr. Bronson to wherever he was going would have dared to make its present rate of speed.

This much may be surmised from the fact that, besides his other accomplishments which I am about to relate, Dr. Dudley, during the period of 1902-1915, was largely responsible for the reduction in the number of broken rails on the New York Central from one in 600 to one in 142,000. That is to say, the chances of accidents due to broken rails were about twenty-four times greater in 1902 than in 1915! This is only one dramatic example of what can happen when technical knowledge plus painstaking effort is applied to the problems of human safety and the protection of property.

And as I have stated, Dudley's work was not for the sole benefit of any one road. The rich fruits of his research and discoveries were shared by the entire industry, by all the American people. Millions of tons of steel rail rolled scientifically to his specifications—rail that accommodates both heavy traffic and superspeed—are being used right now by railroad trains all over the country.

ONE factor that enabled Dr. Dudley to achieve so much was his abundant vitality. The railmaster

was practically never sick. A powerfully-built six-footer with broad shoulders and sturdy physique, he attributed his vigor for the most part to having been raised on a farm. All through life he carried out the simple lessons of good health learned in his early years. Mr. Bronson told me that his uncle throve on plain wholesome food, was particularly fond of apples, enjoyed continuous effort and long hours, and was never known to have indulged in even the minor vices of liquor and tobacco.

The first sunlight Plimmon ever saw streamed through the second-floor bedroom window of a farmhouse in New Freedom, Ohio, at the crest of the watershed between Lake Erie and the Ohio River, on May 21, 1843. His father, a well-to-do farmer from New England with a keenly analytical mind, taught the growing lad to observe the relationship between cause and effect.

At the time of Plimmon's birth there were only about four thousand miles of railroad track in this country. When he died eighty and a half years later, that figure had been multiplied nearly a hundred-fold! The story of this vast expansion is closely identified with Plimmon Dudley's career. When he was a boy, strap-iron rails laid on wooden stringers were still being used on some American roads.* Strap-iron often buckled under the impact of rolling wheels, and rail-ends, known as snake heads, pierced the floors of railroad cars and sometimes the feet of startled passengers. This form of rail was succeeded by various other types, chief among which was the now standard T-rail.

*Latest known use of such track in America was in 1868 on a 4-mile branch of the Marietta & Cincinnati (now B&O) between Westborough and Hillsborough, O.

NEW RAIL SECTIONS

INFORMATION discovered through exact measurements of stresses and strains in railroad track under traffic by the use of a new type of electrical instrument has led to the development of three new designs of rail whose sections have been adopted as recommended standard practice for American carriers. The new rails were made possible through the use of a tiny gage, one fourth the size of a postage stamp, which consists of a grid of fine wire enclosed between two sheets of thin paper. By cementing this gage to the rails, conecting it to an electronic circuit and running the current set up through amplifier tubes, the engineers were able to actuate an oscillograph which in turn deflected a beam of light to record on a moving photographic film the actual behavior of track when a high-speed train passes over it.

The new rail sections will look very much like those now in service except that longer, sweeping curves will connect the under side of the rail head with the vertical web, or middle part, of the rail to increase resistance to distortion when the point of contact between the wheel and rail is near the edge of the head. The web itself will be thickened a trifle to resist the lateral forces imposed by a train rounding a curve.

Plimmon was still in diapers when William Kelly of Pittsburgh, Pennsylvania, invented the first process for making steel—an invention antedating that of the more successful and more widely publicized Henry Bessemer of England—and in 1845, when Plimmon was two, iron T-rails began to be rolled in America. Both of these steps were to revolutionize the railroad industry. Both were to influence profoundly the life work of Plimmon Dudley.

At the age of twenty Plimmon

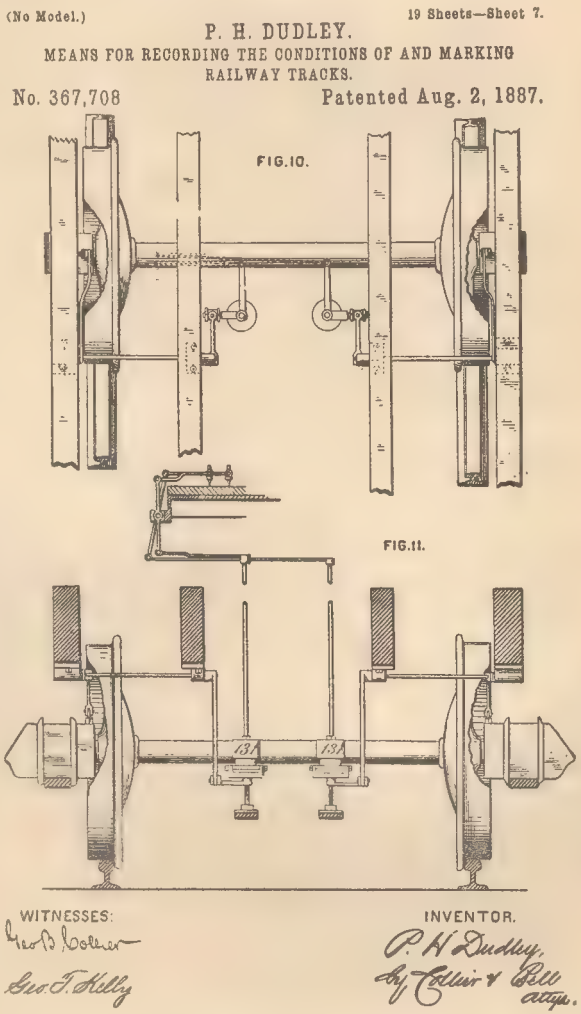
entered college, studying hard all winter and helping his father with crops during the summer. That year, 1863, was memorable in history. It marked not only the turning point of our Civil War but also the introduction of steel rails in America, Bessemer rails imported from England by the Pennsylvania Railroad. Until then, except for a few miles of wooden track, every foot of rail laid in the United States had been iron.

The earliest steel rails produced in the New World were turned out at the North Chicago Rolling Mill in 1865, while the farmer's son was distinguishing himself as a student of engineering and metallurgy at Hiram College. One Hiram professor showed so much enthusiasm over the new Bessemer steel that Plimmon decided to devote his life to the study of ferrous metal, feeling that the utmost he could do for humanity was to make transportation safer and more efficient.

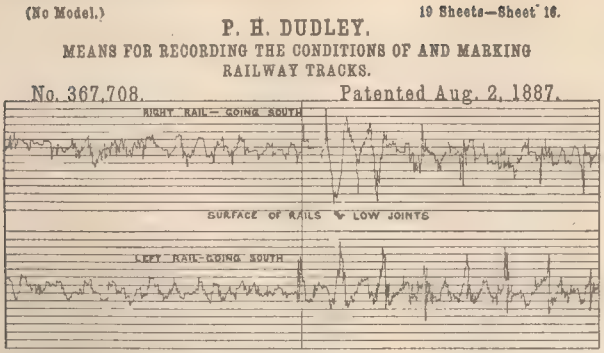
Upon graduating in 1868 with a Ph.D. degree, the youth managed to get and hold for four years the position of chief engineer for the City of Akron, Ohio. In this job he showed marked ability, especially as a bridge designer; but, preferring the railroad field, he eventually went over to the Valley Railway of Ohio as chief engineer.

Meanwhile, in 1871, he married Miss Lucy May Bronson, a comely author and church organist from Peninsula, Ohio. They had been drawn together by mutual scientific pursuits, including the study of termites and fungous growths on trees.

In telling me about his aunt, Mr. Bronson pointed to a framed statement that hangs on his office wall beside a portrait of Dr. Dudley. Both the railmaster and his wife were lineal descendants of Connecticut governors. Plimmon was the fifth great-grandson of William Leete, the *seventh* governor of that state, while Lucy was the fourth



TOP and side view, as seen transversely to the car, of mechanism for determining vertical inequalities of the track rail


(No Model.) 19 Sheets—Sheet 16.

P. H. DUDLEY.

MEANS FOR RECORDING THE CONDITIONS OF AND MARKING RAILWAY TRACKS.

No. 367,708. Patented Aug. 2, 1887.

RIGHT RAIL—GOING SOUTH

SURFACE OF RAILS & LOW JOINTS

LEFT RAIL—GOING SOUTH

PARTIAL reproduction of original graphical record as produced on track rails by Dudley's invention

great-granddaughter of Robert Treat, the *eighth* governor. Fortunately for her husband and for the world, Lucy was mentally equipped to understand and share his zeal for railroad work.

The Valley Railroad (now part of the Baltimore & Ohio) ran between Cleveland and the Ohio coal regions. Dr. Dudley stayed with this road for two years. His first invention, the dynamometer, or power measurer, dates from that period. This was a delicate mechanism for measuring the drawbar pull exerted by a locomotive in hauling a train.

Dr. Dudley became so absorbed in his dynamometer that he resigned from the Valley in 1874 to give his full time and attention to perfecting the instrument. By 1876 he had developed the apparatus into a recording mechanism that told railroad officials exactly what results they were getting from the expenditure of steam power. Dudley's success with the dynamometer and his skill in analyzing its data led the Eastern Railway Association to engage his services in 1876.

Thus the young inventor was beginning to play a major role in the evolution of transportation, as dramatized by the expansion era into which the industry had entered. From 1870 to 1880 some 40,000 miles of American railroad were built, providing every state and territory in the Union with rail service; and the following ten years witnessed the biggest increase of railroad mileage in history—a total of 74,000 additional miles in one decade!

America was on the move. New settlements were springing up everywhere. A vast wilderness once marked on maps as the "Great American Desert" was being peopled with the aid of the iron horse. Swinging along with this procession came the airbrake, the automatic coupler, the constantly-improving Pullman car, heavier and more powerful locomotives, and longer trains.

But in the early days of Bessemer steel, when the new rails were rare and costly, when tracks were laid with lightweight and all too brittle iron, railroading was a risky job. Speed restrictions limited passenger trains as well as freight to the caterpillar crawl of twenty or twenty-five miles an hour. The iron rails frequently became unfit for use after a month or two of service. Track maintenance was difficult and expensive. The cost of moving freight was about five times what it is today.

All of these factors were setting the stage for Dudley's life work. When Bessemer steel first became available, its price, around $250 a ton, was prohibitive. Boards of directors argued long and loudly before authorizing even meager purchases of the new luxury. Aside from the price and partly because of it, the

NOTE apparatus between rear truck axles. Bearers were adapted to rise and fall as they passed over defective portions of track. Recording-pen was coupled to loose disk bearing against inner face of track-rails

earliest steel rails ranged only 3½ to 4¼ inches in height and weighed from 52 to 60 pounds per yard, as compared with today's maximums of 8 inches and 152 pounds.

It did not take Dudley long to discover that such track was too light to sustain the increasing demands of traffic. The joints were connected by tiny fishplates with only four bolts apiece and inadequately supported, so that nearly all of them were too low. Some rail-centers were high; others were depressed like the joints, with rough wheel marks. A great many rails were kinked or wavy. Bumpy train rides were taken for granted by the helpless passengers.

Dr. Dudley noted that operating trains under such conditions was a shameful waste of motive power. Worse than that, he found the newspapers filled with lurid accounts of wrecks, most of them caused by defective rails. A typical comment on a railway disaster in *Harper's Weekly,* "The winter massacre of travelers begins," appeared about the time that Dr. Dudley was getting started on his metallurgical crusade.

The farmer's son showed real understanding of the rail by advancing the then revolutionary theory that its principle was that of the girder, which, if made stiff enough, would uphold the weight of passing trains on a smooth level surface with no sag. Thus, he maintained, train resistance would be lessened, with consequent reduction in the fantastically high operating and maintenance costs.

Brass hats and so-called steel experts politely laughed at this theory. To them it seemed grotesque. Dr. Dudley should have expected a reaction of that kind. It is natural for human beings to ridicule new and unfamiliar ideas. Relatively few inventions or progressive notions have escaped such a fate. The mild Dr. Dudley later put it this way:

"The question of a section as an engineering structure for stiffness to reduce the train resistance and maintenance was not considered, as it

was in advance of the ideas on the evolution of rail sections at that date."

DUDLEY set about proving his thesis—which, as you probably know, is generally accepted today. He devised an intricate contrivance called a track indicator. This detected and recorded on a continuous paper roll twenty inches wide the up, down, and sidewise irregularities of each rail separately, including high joints, loose rails, and roadbed depressions. It showed also the percentage of tangent and curve, the track gage and profile, the mileage, and the exact location of sections and stations.

that the defect must be corrected. It will be seen readily from this description that Dudley's mechanism was the direct antecedent of the present Sperry Rail Detector car, which has become so necessary to modern railroad operation.

When the track indicator car stopped, a calculating apparatus automatically figured the total number of irregularities. To the mass of data recorded by this invention was added such information as the brand, weight, and age of rail. Dudley embodied all these facts and figures in a single graphic diagram which reported in condensed form the defects of an entire line or division. These charts, plotted to scale, pro-

AT HOME in the Dynograph car. Mrs. Dudley, gifted musician, at the grand piano her husband installed for their musical delight

The moving graph revealed variations as tiny as one-thousandth of an inch. If a rail were off-line an eighth of an inch or more the machine squirted a charge of white or green paint on it, thus notifying trackmen

vided a permanent record of the track at a given time. Guided by them, officials were able to plan track-improvement programs and order at once so many thousand dollars' worth of new rails.

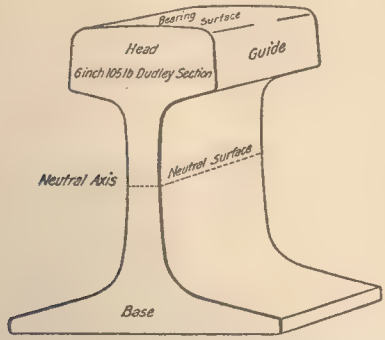
Dr. Dudley's third invention, the stremmatograph, was intended to clinch his argument regarding the action of too-light rails under traffic. This instrument is placed beneath the base of a rail in such a way as to register and permanently record the stresses caused by each wheel passing over it. It has been said that, with an assistant or two, the railmaster would spend the better part of days, sometimes weeks, on his hands and knees in an attitude suggesting devotion. It was devotion, all right—devotion to his work. Often he knelt in mud or snow while the trains roared by. Passers-by unfamiliar with what he was doing doubtless questioned the steel expert's sanity.

But Dr. Dudley had a definite purpose in making those tests. His stremmatograph records, which could be read only through a powerful microscope, furnished uncontrovertible proof of the need for heavier rails.

Meanwhile, Mr. Bronson's uncle had been appointed by the New York Central & Hudson River Railroad, as it was called then, to the position of consulting engineer on rails, tires and structural steel, a position he held actively for the rest of his life. The Central had already built a private car to house his three in-

EMPIRE STATE EMPRESS took to the rails October 26, 1891. Consist was Number 870, combination baggage-smoking car, day coach, the new Wagner drawing-room car ***Luxor***, and Vice-President Webb's ***Marguita***

ventions. Especially designed, it cost $150,000 and was during its period of service the most expensive car ever built. This laboratory on wheels was fitted up also with living quarters for Dr. and Mrs. Dudley;



CUT of rail section used by Dudley to explain stremmatograph tests of strains involved in support and distribution of individual wheel loads

and to its furnishings the affectionate husband added a grand piano, in order that Lucy, the musician, should feel at home in their unique quarters.

This car was their sole abode for forty years. Much of that time they were rolling over the New York Central system and other eastern roads. The D car, as it was designated, and a coach for Dudley's assistants were coupled behind an engine. Ordinarily they traveled only in daylight hours and at about fifteen miles an hour, but on at least one occasion the D made a mile a minute.

Dr. Dudley wrote: "I made a valuable test in October, 1878, with an express passenger train on the New York Central & Hudson River Railroad from Buffalo to Albany. We left Buffalo at 6 a.m. with locomotive Number 600. The train consisted of nine cars from Buffalo to Syracuse, and on descending the Bergen grade the train attained a speed of sixty miles an hour for two miles. The journals of the driving wheels ran hot, and the train was stopped to cool the journals. This was the first time that my car had attained a speed of a mile a minute. The journals were cooled and we ran to Syracuse.

"The train resistance of forty-eight to fifty miles per hour on level tangents was about 11½ pounds per ton for the above speeds. Locomotive Number 600 and one baggage car were cut off at Syracuse, and we ran with eight cars from Syracuse to Albany. The train resistance on 4¼-inch-high, 63-pound rail was nearly one pound higher on several of the tangents between Syracuse and Albany."

Dudley's diagrams, scaled to fifty feet of track for an inch of paper, showed so many irregularities, averaging from 5 to 12½ feet per mile, that they suggested the famous Manhattan skyline. This was not flattering to officials of the system that proudly called itself "The Water Level Route." There was an equivalent to seven or eight feet per mile of needless ups and downs in the track. No brass hat likes to pay the extra cost of running trains over wavy track any more than passengers relish rough travel.

"The diagrams taken from over 10,000 miles of eastern lines," the consulting engineer wrote, "demonstrated the fact that the rails did not have sufficient mechanical properties to distribute the loads in the wheel spacing to any marked extent, as each crosstie received nearly the major percentage of the wheel effects. The crossties cut under the rail seats with rapidity, which permitted the light equipment to cause destructive,

expensive and useless injury, while the train resistance was high, as well as the cost of maintenance and operation."

To remedy this condition, Dr. Dudley designed a new, heavier, and higher rail section with a broad, flat, thin head. After two interviews with General Manager John M. Toucey of the Central, the second one lasting but twenty minutes, and a five-minute talk with President Chauncey M. Depew, the railmaster was given the go-ahead. The new design increased rail strength sixty-six percent by adding only twenty-three percent weight.

Owing to this marked improvement in track, the use of heavier equipment was authorized. William Buchanan, superintendent of motive power, designed in 1889 the first American-type 100-ton locomotive. The completion of this engine was a red-letter day in railroad history. It, in turn, made possible the world's first heavy, high-speed train, the *Empire State Express,* which, with four cars, began tearing off the miles between New York and Buffalo on October 26, 1891. This train, according to Dr. Dudley, "was considered by many railroad officials an experiment which would be abandoned inside of thirty days," and yet today it is still accounting for a goodly share of the Central's passenger revenue.

Thus Dudley came to be known as "the father of modern high-speed trains." The following year, encouraged by his success, he redesigned the rail to make it an eighth of an inch taller; then another three-eighths, and so on, each one stiffer and more durable than the preceding section, until the Central's standard rail, which had been 4½ inches high and weighed 65 pounds per yard, grew to the maturity of seven inches and 120 pounds under the scientific care of Plimmon Dudley. Each advance enabled the railroad to add more weight and more speed to its trains. As weights went up, transportation costs went down.

DUDLEY and assistant reading the dynograph chart. Band of paper moved at pace bearing fixed relation to car speed when traction resistances were recorded

"We know from the proper evolution of railways," the doctor pointed out, "that it would have been impossible to run the present trains in safety when the average undulations were as high as seven or eight feet per mile as measured by my track indicator."

Dr. Dudley also gave considerable thought to bettering the quality of steel. He ferreted out hidden rail defects, known as fissures, and devised the system that is standard practice in steel mills today of using a letter to designate the position of a given rail in a steel ingot.

"His studies," reported President A. H. Smith of the Central, "resulted in radical improvements in the manufacture of steel rails which very greatly reduced the number of accidents due to broken rails and led to great economies, previously impossible."

C. B. BRONSON, New York Central inspecting engineer, as he looked during days when he assisted his uncle in the famous D car

UNLIKE the average technical expert, Dr. Dudley had a lusty sense of humor. Mr. Bronson told me that his uncle would relate jokes now and then to lighten the tension of serious work. Dr. Dudley's friends remember him as kindly and generous to a fault. Money was no object to him. Before being put on salary in 1912, he often failed to render a bill for the professional services he performed. Never did he show acumen in managing his personal finances.

Another outstanding trait, according to his nephew, was his eagerness to impart knowledge. Many a time he would interrupt important work to explain a problem to a casual inquirer. Too preoccupied with weighty matters to visit a theater or motion-picture show, play cards, or enjoy any sport, he nevertheless found time for Episcopalian church services regularly every Sunday. Seated beside his wife in a pew near the rear, he would peer over his nose through steel-rimmed spectacles with an air of dreamy contentment.

The Dudleys were well mated. Both had good scientific minds and did much writing on technical subjects. Lucy's knowledge of steel has probably never been equalled by any other woman. She wrote seven books, not all of them technical. One of her books, quaintly titled *A Writer's Inkhorn,* tells how in 1910 she and her distinguished husband attended

SPERRY rail-flaw detector car built especially for New York Central in 1931, eight years after D car was scrapped

the Eighth International Railway Congress at Berne, Switzerland, where Dr. Dudley won new laurels. While there, she wrote:

"Dr. Dudley showed profiles of worn 100-pound rails that had been made and laid in 1895 on the inbound main track at Grand Central Terminal, New York, and by August, 1907, had carried 350 million tons of traffic with a loss of only one-hundredth of a pound per million tons carried. This report was considered so valuable that it was ordered translated into French and German."

Dudley told fellow delegates that the New York Central was then (in 1910) running trains of 500 to 700 tons daily at speeds up to seventy-five miles per hour and often up to eighty. He said, furthermore, that the Central was getting its best fast-run performances from the 4-6-2 type locomotive, which loaded the track more favorably and was easier on the rails than the lighter 4-4-2. This he attributed to the Pacific's long driving-wheel base and the expenditure of its 1200 to 1500 horsepower through six drivers instead of the Atlantic's four.

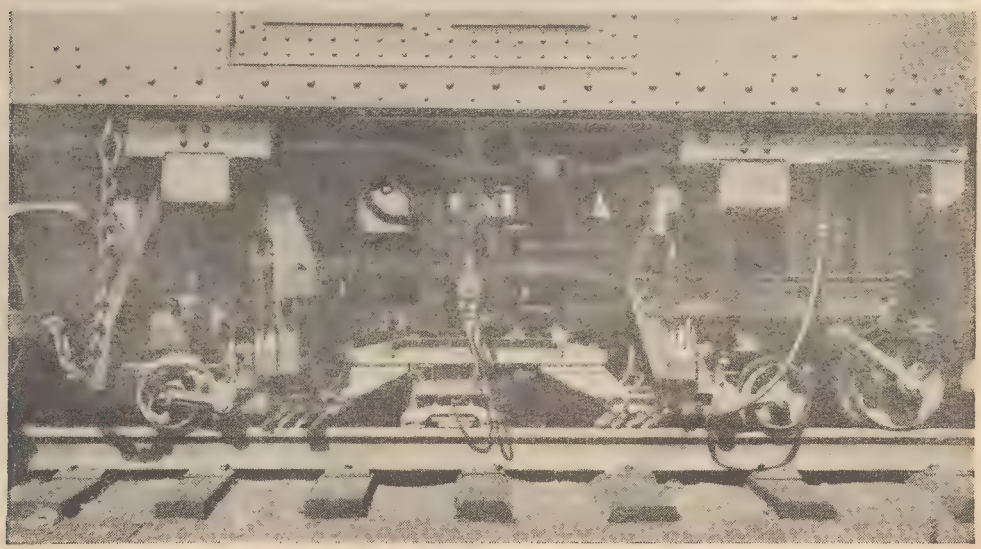
"The 4-6-2 locomotive rides steadier in service," he declared, "as would be expected from the stremmatograph tests of its strain on the rails."

After leaving Berne the Dudleys

CLOSE-UP showing brush rigging on the X-8015 in position for use. ***Below:*** Contact brushes energize the rails from which detector coils pick up electrical evidence of flaws

toured England to inspect steel mills. The wife's appraisal of work turned out at those plants is something I have never come across in the books of any other woman writer. They also visited the ruined Dudley Castle at Worcestershire, a celebrated landmark that is supposed to date back to the eighth century. The Dudley clan, including earls and barons, one of them Queen Elizabeth's favorite, played a dominant role in English history; and Plimmon H. Dudley belonged to that family by lineal descent.

A seventeenth century kin of the New York Central steel specialist was, by an odd coincidence, a pioneer English ironmaster named Dud Dudley. Dud wrote a curious little vol-



Reading Co. photo by William M. Rittase, 247 S. 15th St., Phila., Pa.

MASSIVE POWER like this became possible only after Dr. Dudley pointed the way to heavier rail, greater speed

ume, *Metallum Martis* (Metal of the War God), for beneath Dudley Castle lie extensive iron and coal deposits which Dud began putting to practical use in 1621. *Metallum Martis* relates how Dud's primitive iron foundry flourished under two kings but was suppressed by Oliver Cromwell in 1648. Dr. Dudley expressed so much interest in this narrative that his wife devoted the longest chapter in her book, *A Writer's Inkhorn,* to this subject.

It is literally true that for the best part of a half-century Plimmon Dudley rarely ventured far from a railroad track. Twice he attended the International Railway Congress, occasionally he inspected steel mills, he did go to church, and at very infrequent times he sat in on official conferences that were held at some distance from railroad terminals or tracks—but those were the exceptions in his well-ordered life and, according to Mr. Bronson, who assisted his uncle on the job from 1913 until early in 1924, Dr. Dudley invariably returned to the rails as soon as he could. You might almost have thought he was homesick while he was away from them.

The Central's inspecting engineer recalls that long hours meant nothing to his uncle when there was a job to be done. Out on the road, the old man would arise at 4:30 a.m., often when it was still dark, work furiously until 8 p.m. and slip into bed at 8:30. Between assignments or tours, the Dudley private car rested in the yard at 46th Street and Madison Avenue, back in the days when that midtown section of New York was open country.

No matter where Car D was to be found, Dr. Dudley and his wife were living in it. Around 1911 the old relic became obsolete for company use, mainly because its bearded tenant had pretty nearly achieved his ambition, which was improving the track to such an extent that railroad travel was as safe, comfortable and inexpensive as human ingenuity could make it, at least insofar as rails were concerned. The famous car was then retired to Mott Haven yards in the Bronx and never again rode the line. However, the Dudleys were so used to their distinctive abode that they never gave it up. When the doctor traveled thereafter he borrowed a more modern official car. Even after Lucy died in 1921, Mr. Dudley continued to live in the original car for about two years.

Finally and reluctantly, he moved to the Commodore Hotel, near Grand Central in which he was given an office on the ground floor. But by that time his robust health, which had been nurtured by his wife's presence and plain cooking, began to fail; he could not accustom himself to the richer meals served by dining-car cooks and hotel chefs, and he died on February 25, 1924. His modest grave in Woodlawn Cemetary, just north of New York City, is marked with a simple stone placed there by Mr. Bronson and is located not far from the $150,000 white marble mausoleum of Jay Gould.

The beloved old car in which the Dudleys spent so many fruitful years has long since been scrapped; but the records achieved in that car, made one man "the father of modern high-speed trains," and will continue to benefit the travelers and shippers of America until the last flag is whistled in and the last wheel ceases to roll on Dudley-improved rail.

Tonopah & Goldfield

PREVUES BY LUCIUS BEEBE AND CHARLES M. CLEGG

WHEN the T&G's gasoline electric M-103 stubbornly refuses to work, which is most of the time, it is ignominiously sandwiched into the freight consist of the regular morning train from Mina, Nevada. Result is, mail and passengers arrive on the most uncertain of schedules. During the closing months of the war, when a huge desert airbase brought traffic back to an almost forgotten high, the railroad leased several Diesels from the government to help out its own antiquated steam motive power. However, the *Tonopah Times-Bonanza* charges, no effort has been made since the war ended to run the line for profit; instead a truck line has been operated in lieu of railroad service.

"Saga of last chapters," Mr. Beebe calls the Tonopah & Goldfield in his *Mixed Train Daily, a Book of Short Line Railroads,* a deluxe volume with photographs by Charles M. Clegg and the author, scheduled for publication by E. P. Dutton in October. This 89-mile pike running between Tonopah Junction and Milltown, Nevada, with a 9.3-mile branch over Southern Pacific trackage from Tonopah to Mina, was due for abandonment when the Nevada Public Service Commission on January 31st issued an order denying the owner, a northwest junk dealer, the right to make scrap of the trackage. Mining and commercial interests of Nye and Esmeralda counties pledged the sum of $60,000

T&G neighbor across the mountains is the Keller Branch of SP's Mojave Division. Last narrow-gage common carrier operating in California, former Carson & Colorado runs a lonely 72 miles through Owens Valleys, connects with standard gage at Owenyo

toward purchase of the line from Louis Dulien of Seattle. Despite this, the Interstate Commerce Commission's decision, handed down on February 24th, granted to the owner permission to abandon trackage between Goldfield and Tonopah and Tonopah Junction.

Based on fact and legend, chapters in *Mixed Train Daily* carry the authentic flavor of days when mere mention of the road's name brought to mind visions of long strings of ore cars trundling across the desert in a sort of bonanza-yellow haze.

ABOVE: **Doubleheaded behind clattering Consolidations with Vanderbilt type tenders almost as old as the railroad itself, tank consists still roll across the desert from Tonopah Junction to Blair Junction.** ***At left:*** **Old-time coach maintained by Tonopah & Goldfield ran in mixed train service between Goldfield and Mina, where the road has its connection with the Southern Pacific. Polished wood of paneled decks denotes nice state of preservation, while oil lamps overhead and oil reading lamp adjusted to lower wall space show coach's age**

T&G bonefield at Goldfield is repository of many a spacious legend of the west as well as of a vast store of rusting equipment (M-103 below is an exception), rolling stock and outmoded mining machinery of the Tonopah Mining Company, former owners of the road which went into receivership in 1932 after a prosperous career of 27 years. Combined population of Nye and Esmeralda counties, where most freight originates, is around 5000. In Tonopah itself the sun shines 360 days a year; water, which has to be piped in for 15 miles, is one of the most expensive living costs for the town

BELOW: Roadmaster's motor car and a former trolley car of long forgotten vintage and ancestry (the latter now used as a maintenance-of-way car) stand on the tracks at Goldfield, end of the line

Whirlwind Riggs

By E. S. DELLINGER

Wherever He Went the Blocks Had Been Set Against Him

UNDERNEATH the arctics were narrow, black kid shoes, beneath the buffalo coat a fancy vest embroidered with silk flowers

DECEMBER stars shone on the ice-bound train yards in Mission Valley. Inside the Pacific Railway's roundhouse high in the Northern Rockies a fireman was nervously scooping coal into the maw of a Consolidation, raising steam to take a drag east through the Continental Divide. You couldn't make him out clearly, even when the glare from the firebox door struck him full-face. His features were masked behind a heavy brown beard.

He was tall: you knew that. Straightening up, he stood at least six-feet-two, not an ounce extra on his slender frame. His fingers were long and lean, and his eyes blue. This particular night they seemed to reflect some of the intensity of the flames. They had grown dangerously bright the moment he learned the name of the engineer called to ride the line with him.

The fireman's unsteady hands whanged the scoop against the rim of the firebox door, spilling coal on to the deck. With controlled patience, he filled the shovel and emptied it into the corner, slammed the door and swept out the deck. Then he sat on his platform, watching the rig

gangway, for this Snedaker to appear.

A black alligator bag hit the deck first. The minute it did, Riggs knew he was sunk. There might have been two hogheads of the name Snedaker—and Riggs certainly hoped there were—but never two with the same taste. Right behind the bag was Jay Snedaker, who had hired out that morning to pull throttle on the Mountain Division through Moulton Pass.

Snedaker was a cheap imitation of one of those Gay Nineties playboys who believed that marriage was a bondage. He had been a handsome man until a few months ago when a young girl's brother had kinked his nose mopping up the deck of an Arkansas freight hog with him. He still tried to dress the part. His black mustaches were waxed and curled at the tips; his coal black hair shone with oil. Tonight his feet were encased in heavy arctics and he himself bundled into a buffalo overcoat. But Riggs felt certain that underneath the arctics were narrow, black kid shoes neatly polished, beneath the coat a fancy gray vest.

The fireman had anticipated the newcomer's moves. Unbuttoning his heavy coat, he fished a good cigar out of the desk and lighted it. Then as he reached for the alligator bag, he turned to Riggs.

"Hi ya, tallerpot! See you've got her hot and full of water."

"You need 'em hot and full when you take 'em out of this burg, Snedaker," the fireman retorted.

Snedaker dropped his bag, jerked the cigar out of his mouth and walked slowly across the deck. The light in the cab was dim. He jerked the chain, opened the fire door wide. The ruddy glow fell full on the fireman's bearded face.

"Whirlwind Riggs!" Snedaker muttered.

"You've a good memory, Snedaker," the fireman commented with a touch of irony.

"But how come?" the hogger demanded. "I thought the officials blacklisted you Debs' boys."

"They have," replied Riggs, "but it will take more than blacklists to keep us off the trains, so long as they run 'em with wheels under 'em."

Riggs met Snedaker's hard look as he spoke, and the engineer had no comeback. The runner's good-looking face wore a puzzled frown as he went out to prepare the engine for the trip.

CONDUCTOR GRANGER climbed up the cab steps a few minutes after they had coupled on. Old Montana Bill was not a handsome man. The right side of his face had been caved in by some early rail disaster. His cavernous gray eyes overhung by craggy brows, reminded you of the gray cliffs you must pass to reach the grassy vales of western Montana.

Granger handed the engineer his orders and stood with his back to the hot firedoor, talking to the fireman. Between puffs of an evil-smelling pipe, he remarked about the weather, which had fallen fifteen degrees since darkness had settled. Up on the Divide it would probably hit forty below.

Snedaker, who had finished reading the orders, stuck them into his pocket and questioned "What kind of a train have we got?"

"Thirty cars," replied Granger. "They're all heavy loads going through to Enlow."

"How about brakes?"

"You've got ten cars of air on the head end. The rest of 'em is strong arms." Montana squinted at the run-

ner through the fog of tobacco smoke. "New man here, Snedaker?" he queried.

"This is my first trip."

"You *have* worked on a mountain railroad?" No mountain man wanted to work with a flat-country engineer in the days before air brakes. Officials wouldn't hire them if they could get experienced mountain hoggers, but during the months following the Pullman strike, they hired anybody.

"Sure," said Snedaker. "We had a little hill between Winslow and Mountainberg on the Arkansas Northern. I worked that job four years." He or Riggs might have added that for three of these he had been fireman.

"Well, we've got two little hills here, Snedaker," said Granger, obviously relieved. "You go up eighty-six miles from the east switch at Mission Valley to the west portal of Moulton Tunnel, and then down into Enlow. And when I say *down,* I mean exactly that. You go into the west end of the tunnel on a two percent grade, and on the east end, you drop for nine miles at a hundred thirty feet a mile. But Dave here can tell you all about it. He's been here since July."

Snedaker arched his brows. "Did you say Dave?" he inquired smoothly.

"Yes, Mr. Snedaker. I said Dave. This is Dave Riggs, your fireman, in case he's been too busy to introduce himself."

"But Dave Riggs is dead. This is—"

"This Dave Riggs ain't dead, Snedaker," the skipper interrupted. "When you see him making steam, you'll admit that he's very much alive."

Snedaker was not stupid, yet he barged right on as if he hadn't heard.

"Dave Riggs was a fireman killed in a saloon gunfight in Pitkin, Colorado, in 1892. This is his cousin, Whirlwind Riggs, the engineer, who used to be the prize speed fiend of the Arkansas Division. I fired for him there before the Pullman strike."

Snedaker might have said more, if the conductor had not stopped him. "On this road, Snedaker," he said pointedly, "if a man tells us he's King Solomon or one of the Prophets, then he's King Solomon or a prophet, just so long as he keeps his nose out of other men's business and does his work. We're not interested in family trees."

"Old Pat Quinn will be interested in this guy's family when he gets the dope."

"And I suppose you'll tell him," Riggs said icily.

"The news will get round, Whirlwind. Maybe not tomorrow or the next day, but it'll get around," he assured him.

"Perhaps it would be a good thing for Snedaker if it didn't get around," the conductor suggested. "Riggs has made a lot of friends here since he came."

"Friends won't help him much if Quinn hears he belonged to the A. R. U. and is working here on a dead man's reference. I understand he has no more love for the Debs boys than Gene had for us scabs back in 1893."

"There's plenty of men working on the Rocky Mountain who don't love you scabs any more than Gene does," said Granger, "if you get what I mean."

OUTSIDE, lanterns bobbed among the sparks of crimson, gold, and emerald. Frosty air seeped in around the storm curtains. Riggs opened the firebox door and laid two for-

ward, three back. A hard-talking yardmaster bellowed up from the cinders to know if they aimed to stay in Mission Valley all night.

"We're ready to go when you and your snakes quit foolin' with our train," the conductor shouted back.

"Then get the hell out of here. We've been through for the last half hour an' we need this track for another one."

Snedaker had to take the slack three times before he got the cold wheels rolling. There was no talk in the cab that night. Neither reminded the other of feuds and broken friendships. Each man did his own work and his own thinking.

Pretty soon the even clicking of drivers over rail joints had the effect of the ticking of a clock. *Tick, tick, tick, tick.* It went on and on; you couldn't stop it, no matter how hard you tried. But Riggs couldn't look ahead. There was no use trying to think what would happen when Pat Quinn heard who he was. There was only one thing the brass hat could do, when he had sworn to keep strikers from getting berths on the Pacific Railway.

Funny how things go. When you start out, you have such enthusiasm. He remembered his boyhood years on the rocky farm deep in the Arkansas hills, just waiting for the time when he'd be old enough to get a job. After that, there was the struggle upward, from knocking fires to the seat on the right hand side of the cab. Then finally, those reckless years when first he wheeled the fast ones.

It was about that time he met Jay Snedaker. At first they had been friends. Later, as Snedaker developed the art of charming teen-age girls and weak wives of railroad buddies, their friendship had been broken. Riggs saw once again the night when they had fought in an engine cab in the Fort Smith yard until the deck looked like a slaughter pen.

Since then, they had never spoken until tonight. Riggs had gone out during the Pullman strike and lost his job. Snedaker had stayed with the company and had been promoted. So their trails had parted then.

For Riggs, the intervening months had been a succession of high hopes and bitter disappointments. He knew he was an engineer. He wasn't scoring himself too high when he admitted inwardly that there were few men more efficient with the throttle than he. Yet wherever he went the blocks had been set against him. In terminal after terminal the replies of hiring officials had been the same, "Come back tomorrow and maybe we'll have something for you."

Before tomorrow, the hiring official would have checked his record of the men who had stood by Debs. "Riggs, William Edward, Engineer . . . . nickname Whirlwind."

"Sorry, Mr. Riggs, but we are not hiring engineers."

"Hiring firemen?"

"No, not hiring firemen."

"Hiring brakemen?"

"No, not hiring brakemen. Not hiring anybody right now."

Dejectedly he had gone his way, hoping it would be different in the next place. The answer was always the same.

In desperation, Riggs had assumed the personality of his cousin whose name had not been written in the book. In Mission Valley—miles from the fields and hills of Arkansas—he had hoped to hide from the past and build a new future. But now the one man who would surely turn him in

had found him. It might not be tomorrow nor the next day, still sooner or later he would be driven out on the boomer trail.

Riggs went over the hill and back in one of the worst trips he had ever made on a railroad. In the first place, Snedaker never was nor would be an engineer; he was only interested in the money. In the second, Snedaker was a rawhider. He deliberately pulled every trick to make the fireman's job harder. Riggs was glad when the Irishman he was firing for regularly reported for duty on the next run.

SNEDAKER worked off the extra board until after Christmas and Riggs heard nothing. About the middle of January he had begun to hope that Snedaker, too, had come to Mission Valley because it was far from the hills of home. Then his engineer laid off again and Snedaker caught the turn.

Neither spoke when Snedaker entered the cab. They had not met since his first run on the division, but Riggs had heard he'd been having trouble. The super had had him on the carpet for rough handling of trains and failing to make time. The grapevine figured he'd been threatened with discharge unless he showed improvement.

Ignoring Riggs, the engineer exchanged his buffalo overcoat for a heavy mackinaw, and pulled a pair of heavy corduroys over his gray-striped pants. When he had carefully packed his overcoat and put the alligator bag in the seatbox, he went out to oil and inspect his engine. The examination was brief, for it was cold out there. Gusts of wind were whipping snow through the yards.

Their train consisted of twenty-seven cars of cattle and, again, Conductor Granger was in charge. Their head brakeman was Mickey Quinn, who was anything but small, freckled and carrot-topped. The superintendent's son was a stalwart youngster of eighteen. The part in his brown hair was six feet from the ground. Rumor had it that his father was sending him out on the line as first step in making him into a brass collar.

Mickey rode the cab that night, because there were eighteen cars of automatic air next the engine. When a crew had two-thirds air, it was not necessary for the head brakeman to ride the tops. The train pulled up to Moulton a little before midnight. They took siding west of the tunnel to meet Number One and a freight and to let Number Two pass them.

A storm was raging fiercely in the pass. The mercury had dropped to forty-six below, as a gale howling down from the mountain peaks drove clouds of snow before it. The snow sifted in through the storm curtains and stuck tight to the frozen deck. While they waited Mickey headed back to the telegraph office, leaving Riggs and Snedaker alone in the cab.

Number Two arrived from the west at 12:15. Snedaker was dozing in the right cab window. Riggs stuck his head through the storm curtains and checked train, engine number, and markers. He saw she was carrying a mail, a baggage and two express cars, two coaches, five Pullmans, and the general manager's business car. Her helper cut off and backed into the way. Then the crew tested their air brakes and the train went on down to Turner, two miles east of the tunnel to meet Number One and the merchandise train. Both were late.

A few minutes after she had gone, the conductor and the head brakeman pushed aside the storm curtains and stomped into the cab. A gust of wind tossed snow onto the deck. Snedaker snapped awake. Montana Bill handed him order Number 53, directing him to hold the main line and meet the merchandise train at Turner instead of at Moulton.

"We'll test the air as soon as Number One shows," the conductor told him. "Then we can pull out of this place as soon as she clears the switch."

Riggs knew that was good railroading. During the early days of automatic air it was not safe to let a train stand long after a test, when the mercury hovered near fifty below. He shook down his grates, built up a good fire, and turned on the blower to clear out the thick smoke before they entered the tunnel.

At 12:56 a pin point of light showed on the tangent beyond the tunnel's eastern portal, where Number One was pounding up the heavy grade. Granger himself made the brake test, a job he never neglected. He had Snedaker apply the brakes and he walked back to the rear end of the air cut, leaving Mickey halfway between, to pass signals through the snow. Having assured himself that all brakes were applied, he signaled for the release.

Snedaker twisted the valve and released the air. Montana Bill returned to the cab, checking each car as he passed it by. He reported eighteen brakes, all working.

After that, the skipper and hogger walked back to the office. Mickey came up to the cab, to await the arrival of the passenger. He up-ended the water pail on the platform in front of the fireman and sat down.

NUMBER ONE came through the tunnel and stopped at the station. Even after the train had cleared the switch, Snedaker did not show up. Mickey figured the second trick dispatcher had decided to annul the earlier order and hold them in Moulton to meet the merchandise. Riggs agreed.

The super's kid thawed out his throat with a swig of hot coffee from the pot which the fireman always had brewing on the tool shelf. That limbered his tongue.

"Boy, it's cold as Blixen out there on those car tops," he muttered. "I'll be damn glad when the chinook melts the snow off the mountains."

Riggs nodded. He wasn't sure he would be there to enjoy the balmy weather, but he endorsed the sentiment. The weather topic exhausted, young Quinn jerked a thumb toward the vacant right cab seat.

"I don't like that guy," he growled.

"No?"

A bleak smile came over the fireman's bearded face, but the youngster's next remark quickly wiped it off. It was plain the boy was uneasy; he sounded as if trying to warn him. "Did you know he's been talking about you?" Mickey was eyeing Riggs closely.

"Well, no I didn't," the fireman replied, rather evasively.

"Well, he has," Mickey answered hotly.

Riggs sensed he had a stout defender. "He says you're some other guy, one of the A.R.U.'s and that you're working here on a dead—on another fellow's credentials."

Riggs tried to pass it off lightly. "Sounds mighty like slander," he remarked.

"It sure does," Mickey said impulsively. "I'm afraid—"

Quinn stopped abruptly. Leaving his sentence unfinished, he began talking about other things. Riggs paid little attention; his mind was occupied with the thought that it was going to be tough to be kicked out into the cold just when he'd begun to hope he might soon be free from the dread hanging over him.

Snedaker returned from the office, just as the engine of the merchandise train was coming out of the tunnel. Pushing aside the storm curtain he came into the cab through the left gangway. After thumping the cold from his arms, he handed the fireman an order and a clearance. He had a creased message slip in his hand, also; but he did not hand it over then. Snedaker crossed to the right hand side, looked at his air gage, and stood on the platform fooling with the lubricator while Whirlwind read: "Order Number 53 is annulled."

When Riggs strode over to return the flimsy, Snedaker fished the message slip out of his pocket. He had an air of smug satisfaction as he passed it over.

"I believe this is yours, Riggs," he said.

Riggs took the message. Even before he had opened it, he knew it would read:

"Fireman Riggs, c/o Operator Moulton: Please report to my office immediately upon arrival in Enlow. Signed: *Patrick C. Quinn, Superintendent*"

Glancing through it, Riggs handed it to the brakeman. Mickey read it once and understood its full significance. He handed it back, and with it he extended the firm hand of friendship.

"I'm sorry as hell, Riggs," he said earnestly, without even trying to muffle his comment. "It's a damned shame if a good guy like you has to go while a dirty buzzard like him stays on working."

MICKEY went out to open the switch. Riggs looked into his firebox. No black smoke there, only the brilliant glow of white coals making steam to keep the brakes pumped up for the long descent into Enlow.

Snedaker released his engine brake. The train required nothing more to hold it, for the passing track at Moulton was almost on a dead level. He cracked his throttle, using a little steam until he had his train in motion, then let it roll gently into the tunnel.

Snedaker had learned a few things about mountain railroading since he had come north, but he had a lot to learn. His engine nosed into the black cavern and tilted down on the two percent grade. When half the train was in and they were easing along at ten miles an hour, he set his engine brake. This bunched the slack in the cars directly behind him. Further reduction was not necessary, for with the brakes on the engine ahead and the caboose and nine cars behind their pickup was gradual.

They were rolling at fifteen miles an hour when the snow commenced to spot the cab window at the east end of the tunnel. Right there—on a night when the mercury stood at forty-six below—an engineer would generally have tried out his brakes to make sure they had not frozen during the eighteen minutes that the train had stood after the test. Snedaker had not tested them, before leaving, and he did not stop now. He let them roll free, until they were doing twenty-five.

Riggs and Mickey were watching Snedaker as the engine began to weave and sway.

"Don't that guy know he's got air brakes?" Mickey mumbled to the fireman uneasily.

"How could he?" Whirlwind called down. "He ain't tried 'em since he made his test."

As if in reply, Snedaker twisted his brake valve to let the air out of his train line. They were less than four train lengths above the upper loop of the long S-curve. *Psst!* The sound was cut off sharply, as though the valve had been jerked open, then shut.

Mickey broke the deathly silence that followed by kicking the tin pail out from under him and making a grab for his lantern. Whirlwind got up off the seatbox and peered across the cab. It was dark; the water-gage lamp did a poor job of lighting the engine. But Riggs knew what to expect: Snedaker rose to his feet slowly, whirled the valve, and then closed it—not once but twice. There was no response. The thing was dead.

"Hey, Whirlwind!" The runner's voice was panicky as he hollered across the cab. The fireman crossed the deck in two swift strides. The brakeman followed him to the middle, then went scrambling over the coal pile with his club and lantern.

"What's the matter with this brake valve?" Snedaker demanded.

"Nothin'," snapped Riggs.

"But it won't set the brakes."

"Your trainline's froze up."

"Froze up!"

"You damn fool, where'd you ever learn about brakes! Stop wasting time and whistle for hand brakes. There's nothing else you can do."

"But these cars'll be down in one of the canyons before they wind up enough hand brakes to hold them."

Ignoring the engineer, Riggs grabbed the whistle cord and sounded the emergency call. Mickey Quinn was already winding up the brake on the lead car. His lantern bobbled and grew smaller as he raced toward the second and third. Snedaker was no help. He made no attempt to throw her to reverse. Standing up, he wrenched open his seatbox and grabbed his coat and alligator bag.

"Where the devil do you think you're going?" Riggs bellowed.

"I'm unloading before she jumps the tracks. If you want to end up in one piece you'll do it, too."

"But you can't—"

"The hell I can't!"

Riggs made a grab at his shoulder. "Use your head, Snedaker. You don't stand a chance out there. If you jump off the left side, you're into a mountain wall and back under the wheels. If you go right, it's a thousand-foot roll into Greenhorn Gulch. Now, I've got a scheme—"

"Yeah?" The engineer sneered. "Well, go ahead an' try it. But I don't aim to ride a train off into a gorge with thirty cars of bull on top of me. I'm joining the snowflakes."

RIGGS put his hand on the throttle as Snedaker headed for the gangway. There was a hollow boom as wheels struck the trestle. Snedaker did not seem to hear it. He jerked back the storm curtain.

Riggs made one last attempt to save him. Leaving the right hand seat, he tried to pull him back. As he did, the engineer sent him sprawling toward the hot boiler head. Before he regained his balance, the engineer was gone, into the swirl of falling snow.

Aware of the danger ahead, Riggs

heaved himself up fast and tried the brake valve once again. It was utterly useless. Since not a squirt of air came out, he figured the train line was plugged tight with ice. He opened the cab window; in a few seconds, the cold wind had cleared his head.

Three cars back he could see Mickey's lantern. Farther back, he knew, there were lanterns coming forward to meet him, each one pausing briefly while its owner set a brake. That sight reminded him that he had had a scheme.

Every railroader knows that air brakes are set by letting air out of the pipes to reduce the pressure in the line. Normally, this is done through the valve in the engine cab. Any break in the line has the same result. A knife slit in a hose would certainly do the job, if you knew which hose. Riggs somehow thought it was not impossible to find—at once.

Feeling in his pocket, he pulled out the sharp knife he kept there. He would need a lamp, too; but there was none. The red engine light was in place in front of his seatbox, and though it gave little light, it would have to do. Riggs picked it up and climbed over the coal pile.

They were going through Turner. The wheels squealed as flanges rubbed the rails; the smell of acrid smoke scalded his throat. Riggs had to move slowly, not to lose his balance on the tank. It was dancing like a monkey on a string.

Remembering the clipped hiss of air when Snedaker opened the valve, Whirlwind figured that the stoppage might be at the tender hose. Cautiously he climbed down the ladder, reached back with his knife and cut the car hose almost in two. Then hopefully he felt the slit; no air was coming out. The stoppage was not at that coupling.

Riggs scrambled up on the tank and across to the head car. The tops were slippery and the deck was bucking under him like a broncho in the breaking corral. Below, he could hear the stamping and lowing of the restless cattle. He tried to stand up and walk, but he was used to having something in the engine to hold onto for balance. The top of the boxcar had nothing but an eighteen inch runway that his feet couldn't find.

Dropping to his knees, he started cooning it. Even with the urgency of breaking their speed he couldn't help thinking what a laugh it would give the rest of the crew to see him then. This way, though, he made better time. Soon he felt ahead and found the end of the running board.

Once Riggs laid hands on the brake wheel, he reached for the rod, slid down to the coupling, and cut the hose. Still no stoppage.

THE fireman lost no time in remounting the car top again, cooning another, and sliding down its brake shaft. Again he stretched across the coupling and slashed at the hose. This time, he got results. The air rushed out, and brakes gripped the wheels on sixteen cars behind.

The train was a long way down the hill, when it stopped. Riggs returned to the welcome warmth of his cab. He was leaning against the seatbox rubbing his cold hands when the conductor and brakeman came in. Nobody asked how the train had gotten away. They knew.

"Where is he?" Granger asked soberly, noting the hogger's absence.

"Gone to join the angels," Riggs answered.

"But how'd you stop the train?" Mickey demanded. "I thought the valve wasn't working."

Riggs grinned for the first time in what seemed years. "Cut the air hose."

"Now why couldn't I have done that, when I was setting binders?" young Quinn griped.

"You could have, Mickey," Riggs said good-naturedly, "you just didn't think of it."

After they had anchored the train, the crew went back to search for Snedaker and give him first aid—if he needed it. They found him. He'd jumped off a trestle into an arroyo fifty feet deep, landing square in the bottom which was blanketed with heavy snow. Snedaker was in it up to his neck, but able to struggle free he'd crawled back on the grade. They met him as he limped up the frozen track, wiping blood off his scratched, stiff face.

The old skipper offered him an arm, but Snedaker refused it. As they neared the crimson markers glowing through the snow, Granger turned to him again, breaking the heavy silence that had fallen on the group.

"Think you can manage to take her in?" he asked.

"Hell, no!" Snedaker barked viciously. "I've made my last run. From here on in you Debs' boys can run 'em."

Granger led the disgruntled hogshead into the waycar and treated his cuts and bruises with ointment and arnica. Riggs and Mickey Quinn took off the cut hoses and put new ones on in their places. Then, releasing the hand brakes and pumping off the air ones, they headed for town.

Riggs didn't obey the official order to report to the office upon arrival in Enlow. He knew what was coming; the time did not matter. After a good sleep, he stoically climbed the stairs to old Pat Quinn's office. The brass hat was half-hidden behind his battered desk, deeply engrossed in correspondence. He glowered at Whirlwind, and make no attempt to set the fireman at ease.

"So you're the fireman we hired here as Dave Riggs?"

"Yes, sir."

"You were firing Number 463 for Engineer Snedaker last night?"

"That's right, Mr. Quinn."

"Heard you had a little trouble up on the hill."

Riggs, who couldn't help thinking of the tales he'd heard about the Indians torturing their victims before killing them, nodded vaguely. Come on, Quinn, he thought, let's get it over.

"Just what happened up there, Riggs? Didn't you fellows test your brakes before you left Moulton?"

"We sure did, Mr. Quinn. I've made a lot of trips down that mountain with Conductor Granger, and he always tests his air."

"Then why didn't they work when you came out of the tunnel?"

"I figure the moisture condensed and settled in those head hose connections, forming a slug of ice that kept the air from coming through."

"That's good reasoning, Riggs. You seem to know a lot about air brakes for a two-year fireman."

"Oh, I've studied some," Riggs admitted grinning.

THE super drew a pile of letters toward him, as if to indicate that the interview was ended. He slipped the top one off the pile and affixed his

signature in a big-fisted scrawl. Then looking up suddenly he feigned surprise to see Riggs still there.

"Something on your mind, Riggs?" he inquired.

"Yes, there is, Mr. Quinn," he said uneasily. "About that message of yours—"

"What message?"

"The one you sent last night in care of the operator at Moulton."

"Oh, *that* message?"

"Yes, sir. You asked me to report when I came into Enlow."

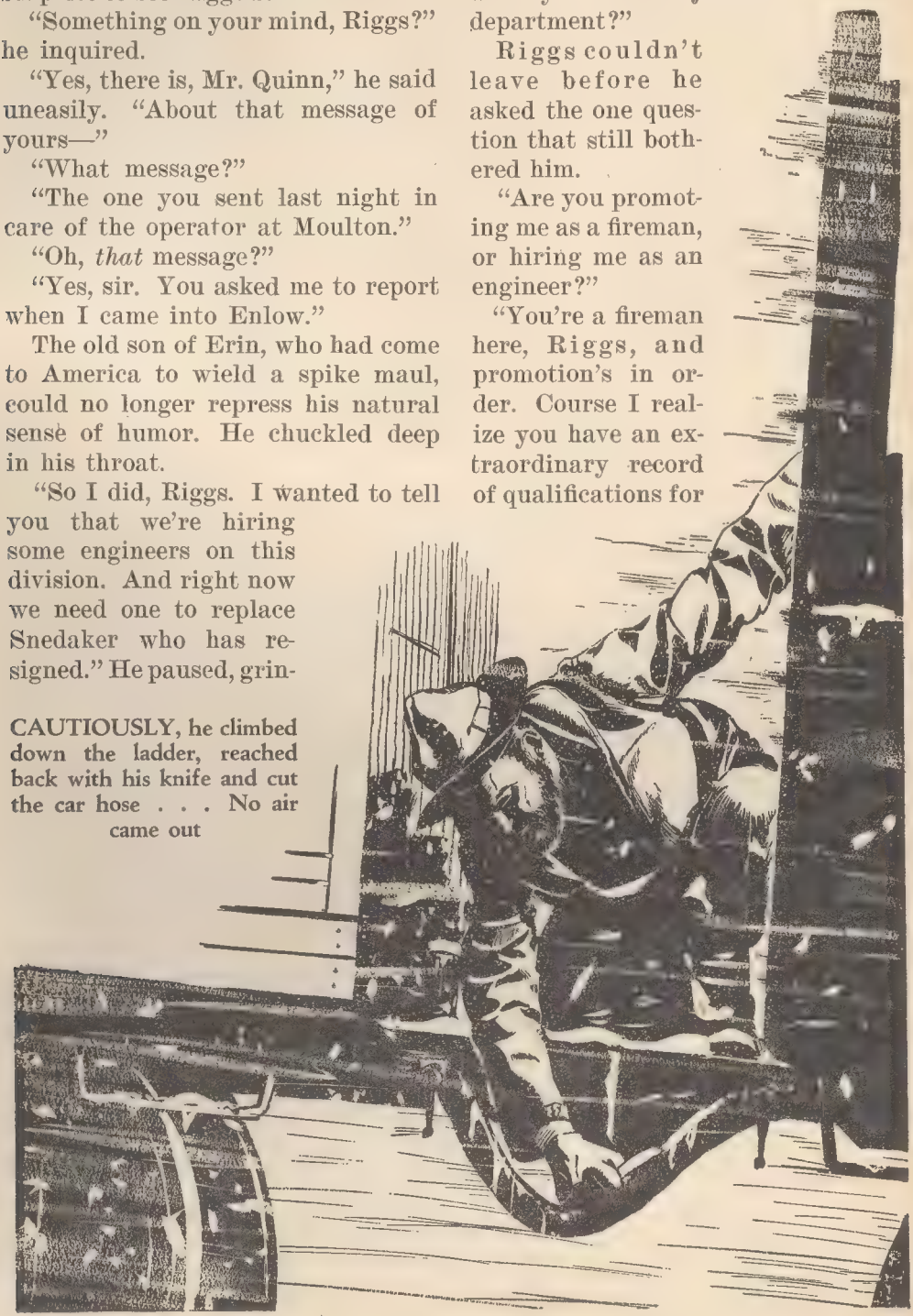
The old son of Erin, who had come to America to wield a spike maul, could no longer repress his natural sense of humor. He chuckled deep in his throat.

"So I did, Riggs. I wanted to tell you that we're hiring some engineers on this division. And right now we need one to replace Snedaker who has resigned." He paused, grinning at Riggs. "Well—what is it? Have you forgotten where you go when you want a job in the motive department?"

Riggs couldn't leave before he asked the one question that still bothered him.

"Are you promoting me as a fireman, or hiring me as an engineer?"

"You're a fireman here, Riggs, and promotion's in order. Course I realize you have an extraordinary record of qualifications for



CAUTIOUSLY, he climbed down the ladder, reached back with his knife and cut the car hose . . . No air came out

the job; Bill Granger told me it was as though you'd been running engines for years. I've authorized the master mechanic to mark you up on the engineers' extra board without any delay for examination."

Riggs started to thank him, but the superintendent clipped him short.

"Don't thank me, Riggs. Thank Mickey or Conductor Granger; those two have been lagging for you ever since the word got around. As a matter of fact, though, it was that piece of ice in an air hose did the trick."

Pat Quinn turned back to his correspondence. For an official who had sworn vengeance on Debs' followers, he'd lost enough time with Riggs.

"Now get the hell out of here," he barked. "There are two trainloads of cattle coming from Oregon tonight. We need engineers on them who know enough about brakes to keep from falling off into these canyons."

Riggs didn't wait to be told again. The engineer squared his shoulders as he walked out. Suddenly he found himself outside the building, striding along swiftly toward home, his big feet plumping hard on the frozen snow. The cold air stung his face, but he inhaled deeply. He felt so good he wanted to laugh. He was here to stay now; he needn't be afraid of what they could dig up from the past. He had no credentials. It was easy to pick up a moniker.

Photo from L. E. Griffith, 738 Hammond Ave., Aurora, Ill.

NINETEENTH CENTURY version of the ***North Coast Limited*** dates from 1890, momentous year when Northern Pacific managers replaced the old 4-4-0's with a fleet of Baldwin ten-wheelers. Engineer on Number 279 was V. F. Willis. Train was snapped enroute from Minneapolis to Brainerd, Minn.

Clear Block—Gray Hair

By V. ALMON LOCKABEY

QUICK thinking and quicker action by railroaders at Santa Fe's San Bernardino terminal recently turned potential tragedy into nothing more than a sensational speed record, which in turn added a few more gray hairs to official heads. The occasion was the runaway boxcar that took off from Ono, Calif. Without any running orders, it hurtled down a three-percent grade to make an unscheduled arrival at the busy terminal five minutes later.

Shortly before noon the local had stopped at Ono to make a pickup at an industrial plant. With its train sitting on the eastbound main line, the move was to cross over, reach in and get three cars, throw one out and two back.

"I'll let you have this one up the westbound," said the conductor to the brakeman. "When we shove back in, ease her down past the switch and when we come out, we'll pick you up."

Sure, it was against the rules to move a car on this grade without motive power. But Number 204 was due out of town in ten minutes, and a shortcut could mean the difference between heading in or going to Devore. The brakeman took the heavily-loaded car to clear, waited for the switch to be lined and eased it down.

The hand brake had seemed good when he tried it, but something went wrong. By the time the car had reached the switch it was gaining speed despite all the leverage the husky brakie could put on his hickory stick. He joined the birds as the 40-ton juggernaut sped on.

Office workers at an industrial plant a mile back saw the car flash by. The PX operator at San Bernardino could hardly believe her headphones when a voice screamed, "a lone boxcar is headed your way at seventy miles an hour!"

The operator cut in the dispatcher who called the towerman at the east end of the yard. Time was running out. It would take team work to avoid great disaster.

The towerman looked up and saw the car thundering toward him. The plant was lined to let Number 204 out. He only had seconds to flip levers that would line the runaway onto the westbound main. There was a 10-degree curve between the tower and the station—speed limit 15 miles an hour.

Slowed slightly by an upgrade approaching the yards, the car careened around the curve. An alert switch tender dashed for the nearest switch thinking to derail the boxcar before it reached the busy station platform. He was too late. Upstairs, men watched and awaited disaster. A dispatcher noted the time: 10:47—four minutes after the warning call.

Rattling across the platform, the car headed toward the maze of switches at the west end of the yard with switchmen bending rails inches ahead of its mad flight. Directly in the path of the runaway sat a locomotive. Hostler Hugh Donahue had just brought her off the "Y."

Suddenly Hugh saw every yardman waving wild back-up signals at him. Glancing back at the still red pot he figured they were crazy till he spied the car—less than two hundred feet away.

"If I'd known how fast it was coming I'd have bailed out," he admitted later.

Not knowing, he virtually knocked the stack off the big jack backing away. From a standing start he was scarcely making eighteen miles an hour when the car caught him. It was a rough joint—enough to break a knuckle on the engine—but the runaway was stopped.

Although Donahue's sensational stop was far from a new wrinkle in railroading, old heads couldn't remember when it had ever been tried with equipment rolling at fifty miles an hour. The car had rolled the five miles in a little less than five minutes—half the running time of the *Super-Chief* over the same track!

All Quiet on the Quincy

An Open Letter to Mr. Ralph Budd, President of the Chicago, Burlington & Quincy

DEAR MR. BUDD: Have you ever wondered why mail sometimes comes to your offices in the Burlington marked *sent to Quincy, Calif. by mistake?* Well, Quincy is a small town in the Feather River section of the state. You probably would never have heard of it back there in Chicago if they didn't happen to have a railroad. The Quincy Railroad Company it's called. And when the oldtimers persist in calling your system "The Quincy," sooner or later someone is bound to address a letter or freight interchange report to the Q.R.R.Co., and presto it ends up in the California Sierras.* So far they haven't received any cars by mistake, but it might happen.

No doubt some of your officials get a little provoked at the delay, as well as the indignity, that must come when a road with over nine thousand miles of smooth steel finds that its mail is being read by a rusty six-mile short line. But it's really not their fault and they do send it right back . . . besides maybe you get some of their mail for all I know. So in the end I guess everything comes out about even.

Dramatic stories have been told of railroading and early construction—tales of blood spilled along the right-of-way with every mile post a monument to violent death, of huge fortunes dwindled by unforeseen obstructions and battles with the elements, of racing locomotives and blazing bridges, of heroes and villains, presidents and hoboes. Numerous legends and ballads have come to us as gems of Americana from the main line, but if that's the type of action you require you'll be disappointed in what I have to tell. However, if you can slow down and come in off the

**Editor's Notes: This mixup of mail actually happens.*

By JACK R. WAGNER

CROSSING American Valley on the Quincy, 6-mile rail link between Sierra lumber mills and WP main line

high iron, forget the whistle that wails in the night and the thunder of the huge road engine, then this is written for you.

Picture a sleepy little mountain town with wooded slopes rising on two sides. Not far beyond its main street is a green carpeted valley where live stock graze, and an occasional deer or bear can be seen hurrying across to the other side. Then through the center of this bucolic scene, the only sign of civilization, passes a freight train of about six or seven assorted cars pulled by a diminutive locomotive. The cars sway independently from side to side, giving the train an uneven look.

Presently it approaches a trestle. While its progress seemed slow before, the locomotive eases out onto the structure at little more than a snail's pace. All hands are leaning from the cab, looking down into the stream and pointing at what seems to be the underpinning of the bridge. Conversation is excited; the air seems tense. But don't worry: the bridge isn't about to collapse. And even if it were, no one would give it a thought, as all attention is now turned to the speckled beauties swimming in Greenhorn Creek. This is life on the Quincy, the line that has my vote as the friendliest and most informal railroad in the country.

THE BOYS who operate the *Little Quincy* are about the grandest bunch of railroaders you've ever seen. Nearly all have held good jobs on larger railroads; but like many big-time newspaper men, they have preferred to live in the quiet and contentment of a small town.

Superintendent L. H. Thayer, for instance, has been in the railroad business all of his life. Starting out with the old Colorado Midland, he has seen service with the Denver & Rio Grande and the Western Pacific, yet ever since 1923 the Quincy has been road enough to keep him interested. His son Leonard, just out of the navy, is beginning his Quincy career.

Agent Orville A. Meyers keeps busy with his books, billings and reports, but not too busy to close up shop when the town fire alarm sounds. In addition to being station agent, this former navy man serves with the local hose company. For neither duty nor the pressure of business keeps Myers chained to his post.

J. F. Moody is another employe with an outside activity. At seventy-four, he is the road's conductor and the town's undertaker. Until recently he held the position of coroner, but then the job was consolidated with the sheriff's office. Moody's railroad career prior to 1916 included the Southern Pacific, the Carson & Colorado and the Oregon Short Line. The last thirty years he has devoted entirely to conducting funerals and trains in Quincy.

Then there's Ed Lonkey, who was born just sixty-nine years ago in Virginia City, Nevada, and can tell you stories of the old days in that roaring town. Though he didn't work for the historic Virginia & Truckee, he remembers when that road owned more locomotives than the Central Pacific. Ed was a great engineer in his day, pulling throttle on the Verdi Lumber railroad* and the famous Tonopah & Goldfield.

Ed was an engineer on the Quincy up to the time they retired the faithful old steam locomotive and bought a Diesel. Then, Ed announced he would never touch the critter and has been a brakeman ever since. His vow never to even touch her throttle adds fuel—even in Quincy—to the argument of Diesel versus steam. Ed's determined about something else, too; he flatly refuses to be photographed. The only known picture of Ed Lonkey shows nothing but a streak, as he quickly turned his caboose end toward the camera.

If you ever get up in that part of the country, Mr. Budd, be sure you talk to Solon F. Luzzader. He's the present engineer on the Quincy, and as fine a fellow as you'd want to know. He learned

** Verdi, about ten miles west of Reno, was once the center of extensive lumbering activity. In 1870 Verdi attained national recognition as the scene of the first train robbery on the Pacific Coast.*

all about the insides of locomotives at the Southern Pacific shops in Oakland. Later he was an engineer on the old Indian Valley Line in California; in fact, he brought the last train out of Englemine in 1938. When he pulled off his gloves, both he and the railroad were through.

Indian Valley went to the junk man and Solon went to the Quincy, where you'll find him now. Although a little partial to steam himself, Solon makes efficient use of the Quincy's Diesel engine . . even to the point of keeping warm a can of salted peanuts which he freely extends as his contribution to the line's hospitality.

While not the only employes of the Quincy Railroad Company, these five represent the home guard, brought together by fate to ply their trades on one of the nation's tiniest railroads. And perhaps you are wondering what a railroad only six miles long does for a living, how it happened to get there in the first place? Well, there *is* a story behind the Quincy Railroad. Maybe it's not the kind you expect, but here it is.

THE NEED for a road at Quincy dates back to the announcement made by Western Pacific's Chief Engineer Bogue that the newest and last of the transcontinental routes would adhere to a one percent maximum grade. This meant that when the line was built up the Feather River Canyon it would be necessary to by-pass Quincy by some six miles and at a higher level.

For a long time, Quincy—the seat of Plumas County—had been in one of the most isolated sections of the state, without even a good wagon road leading to it. Then the railroad surveyors came to the section, followed in time by the graders and the rail gangs. Quincy began to look like a boom town as strange, swarthy laborers, burly tunnel drivers and authoritative engineers flocked into town. Live stock and mules slushed through the muddy streets on their way to end o' track. Work trains were within whistling distance. And so in the local barber shops, the saloons and general stores, the main topic of conversation was the coming of the railroad.

No one seems to have questioned the engineering standards of the Western Pacific, which were responsible for keeping the line from entering town. However, it was becoming increasingly evident that if the community was to benefit from the new roadway there must be some means of coaxing business from the main line. The townspeople began to talk of a short line, one that would connect them with the Western Pacific.

In 1908 J. J. Rutledge floated into town. He was a suave, business-like man who introduced himself to the local citizenry

BUILDER'S shot of 37-ton Number 1, outshopped by Alco in 1909 in time to power Quincy Western's first train. Today she stands idle on a Quincy siding, awaiting a buyer offering $1000

and immediately became leader of the local railway boosters. Now and then Rutledge dropped a hint of influential friends in San Francisco and Oakland. If the local people would show their enthusiasm by raising some money among themselves, he suggested he might be able to secure the balance. His suggestion was acted upon and subscriptions were taken in the form of notes, with the understanding that when Rutledge secured the investment of sufficient outside capital these notes would be turned over to the corporation to be formed. As a safety precaution, a local committee headed by H. C. Flournoy was appointed to see that the interests of the people were protected.

In due time Rutledge organized what was called the Quincy & Eastern Railway Company. Promptly he elected himself and two city friends as three of the five directors. After this was done, he called on Flournoy for the surrender of the notes. Flournoy and his committee refused this request, however, until a guarantee was given that funds sufficient enough to complete the roadway had been placed on deposit.

But Rutledge, it seems, had no such funds. The local directors, who proved more than a match for the promoter, took immediate steps to oust the three out-of-towners and to recover the books.

APPARENTLY the pressure was applied in the right place. A small newspaper item printed in April 1909 states that the board of directors of the Quincy & Eastern met and accepted the resignation of J. J. Rutledge and his associates. The vacancies were promptly filled with local men. One of the new directors was A. W. Keddie, a man who first became prominent when he agitated for wagon roads into Plumas County, later when he sold the Western Pacific on its present Feather River Route. Keddie, needless to say, was well-known in town. His addition to the directorate brought considerable prestige to the corporation.

A second rail promoter, turned Quincy director at this time also, was John Sexton,* Sexton, a huge two-fisted man, had a way of getting things done. In a short time, he had estimated that $30,000 would do the job of building and equipping the railroad.

WHEN Diesel-electric Number 3 came in, Ed Lonkey went out—as hogger. This 1945 purchase is shown at Quincy loading platform

In April 1909, there were twenty-five stockholders; by June of that same year, the number had grown to sixty-five with some $54,000 pledged. Then on Thursday evening July 8th at a stockholder's meeting at the Odd Fellows Hall, the directors found that the response had been more than adequate, and the following resolution was passed: "Resolved: that the directors of the Quincy & Eastern Railway Company are hereby advised and directed to begin at the earliest date practicable the construction and equipment of a broad-gage steam railroad from a connection with the Western Pacific at Hartwell Station (now known as Quincy Junction)

** After four years with the Quincy, Sexton went to Nevada where he succeeded in putting the Eureka Nevada on a paying basis, and gained considerable renown when he gained the upper hand in a crossing dispute with the Central Pacific. His strategy consisted simply of building a red picket fence across the C.P. right-of-way and demanding that the larger road unlock and lock the gate for every train.*

into the town of Quincy, to the end that said broad-gage railroad shall be completed and equipped for operation on or before January 1, 1910."

An investigation of the labor market at the time showed that foreign labor could be had for $1.80 a day without board, while American home laborers worked for $2.50 a day, also without meals. The Quincy decided to use American labor throughout. And so the contracts were placed and construction begun.

The roadway wasn't difficult to build. The route was over level ground, excepting the last mile which rises out of the American Valley and ascends to the Western Pacific main line via a four percent grade. But even that was a straightforward job of grading with an occasional cut through easily moved soil.

Soon the equipment began to arrive. First came the rail,* followed in short order by the rolling stock. The latter consisted of a flatcar and a combination baggage car and passenger coach purchased from the Southern Pacific. Finally the Quincy Number 1 arrived, a 37-ton Alco steam locomotive with a small tender built on the engine frame and supported by a four-wheel truck. This arrangement gave the little engine the peculiar wheel classification of 0-4-4.

At about 11:30 a. m. on that big day late in 1909, Superintendent Sexton had workers lay the last rail in place. L. N. Peter, the town's attorney and also vice president of the road, drove the last spike to the accompaniment of the Court House and Hose Company bells and the Quincy Brass Band. When things quieted down a little, A. W. Keddie was called upon for a few remarks and soon afterwards the good ladies of Quincy rushed forward with a free lunch for the railroad laborers who had so bravely laid rail through the pastures and meadows of the American Valley. The rest of the day was occupied by free rides on the newly-completed road.

The official name of the line had been changed from the Quincy & Eastern of Mr. Rutledge's day to the Quincy Western, a title that was soon to be corrupted to the "Quick & Windy".

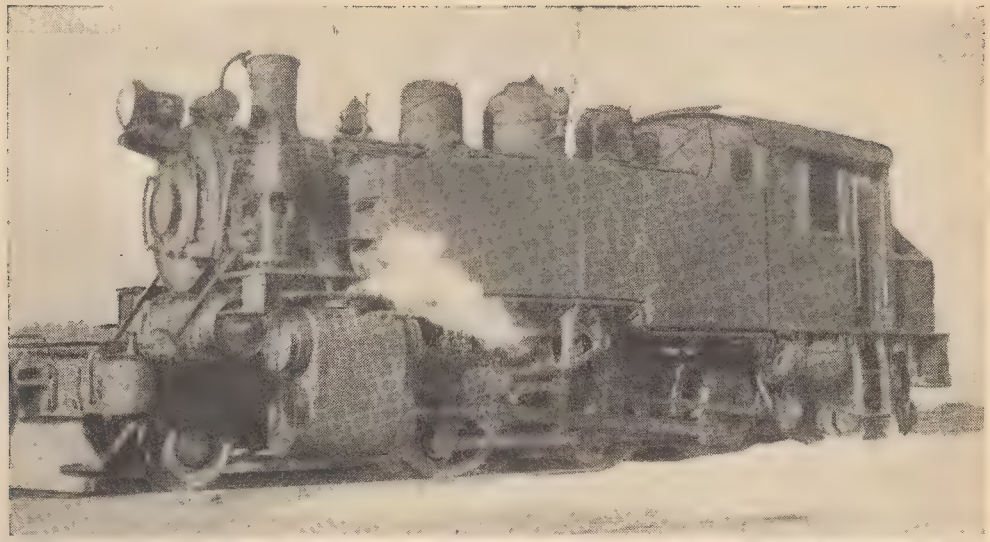
BY SUMMER 1910, the outside world had heard of the Quincy Western. Numerous excursions arrived and left by the local railroad, but unfortunately for the public spirited organizers and investors the line wasn't much of a financial success. In October 1910—when the railroad was hardly a year old—the revenue amounted to only thirty-five dollars a day. However, the management continued to hold out until 1917, when the Quincy Western went into receivership.

Although the original stock was worthless, the line was saved by the F. S. Murphy Lumber Company, which bought the property as a necessary accessory to its lumber mill. A complete reorganization took place and the Quincy again changed its name. This time it became merely The Quincy Railroad Company. As a gesture, some stock was sold in the town of Quincy; but most of the shares remained in the hands of the lumber company.

In 1926 the Murphy Company sold the mill in a transaction that also included its interest in the Quincy. And so the situation remains today, with the mill now known as the Quincy Lumber Company owning about ninety percent and the remainder held by the town's people. Regardless of the lumber company's lion's share, the little line is operated separately; to all intents the mill is regarded merely as a good customer.

The heaviest single-haul job handled by the Quincy was during the construction of the Bucks Ranch Dam. Materials and equipment for the project arrived via the Quincy Railroad from 1925 to 1927. Contractors' equipment such as a locomotive and string of dump cars, twenty-five steam-and-gas-operated power shovels, made their way over the light rail of the Quincy. Largest of the shovels was a 221,000-pound Marion digger.

** Newspaper accounts at the time state that the rail was 50-pound relay purchased from the SP at $32 a ton delivered at Marysville when the Woodland-Red Bluff branch switched to 70-pound rail. Quincy RR records, however, maintain that at least a part of the rail used was 52-pound from the old Boca & Loyalton.*



SERVICE RECORD of Number 2, Quincy's 2-6-2 sidetanker, included work on the road's heaviest single-haul job. She's ready to relieve the Diesel, if ever needed

Passenger service was first maintained by the combination car coupled to the regular freight train. After a while this creaking but picturesque car was retired from road service to spend the rest of its life as a section shed. Since the motor age was then well under way, a strange contraption consisting of a gasoline motor car that pulled a 20-passenger coach appeared on the Quincy. This conveyance earned for itself the name *galloping goose*.

The new addition made the passenger and express department separate from the freight train—a fact that had its disadvantages as well as its advantages. The Quincy was now a two-train road. This, of course, put an added burden on the dispatching system; but things worked out quite well with a private telephone line to the junction with one notable exception.

The engineer of the outgoing freight decided one day that he could make the run to the junction before the galloping goose even got started. This error of judgment resulted in the Quincy's first and only cornfield meet, an event involving the only two trains on the road. The motor car was patched up and ran for a time even after Superintendent Thayer took over. Eventually it was abandoned to the lowly status of a hamburger joint, until later it was destroyed by fire.

At the present time passengers are met at Quincy Junction by a sedan and the rails are devoted to freight service only. With only one train on the rails the possibility of head on collisions is now considered remote indeed.

SOME of the older movie fans might be interested in knowing that when Jack Pickford was making his silent masterpiece *Valley of the Wolf* in the Feather River country, Quincy was his headquarters and cars and equipment traveled over the Quincy Railroad. The movie company had a Western Pacific engine and crew at their disposal to pick up their cars at the junction and pull them on up the canyon to location. One cloudy day Pickford dismissed the WP crew and his actors and technicians returned to Quincy.

That afternoon the sun peeked out from behind the clouds. Anxious to get in a few more hours of shooting, the director tried in vain to get in touch with the Western Pacific engine crew. Finally he asked Superintendent Thayer if a Quincy locomotive would take them up to location, which would involve going out on the Western Pacific main line. The Superintendent was willing but dubious. "Sure,

it's all right with me, but I doubt if the Western Pacific would like it."

As for present revenue, the Quincy supplies the State Division of Highways, the local oil companies, the Forestry Service and such lcl freight that might come to local business houses. The large shippers are the lumber mills and direct spur connection is made to the five major producers: the Quincy Lumber Company, Meadow Valley Lumber Company, the Essex Lumber Company, the Calvada Lumber Company and the Mason & Hager Lumber Company. Twice a day, switching service and two connections with the junction are made, providing the mills with better service than they would get if they were on the main line. This fact keeps the Quincy Railroad in good standing with its customers.

As for the future of the road, that depends pretty much on the fate of its carload shippers. At least one of the large mills is on a sustained yield basis, which means that it has enough forest available and is cutting on a scientific plan that will make its operation last indefinitely. However, some of the smaller mills cannot do this; when their timber allocation is used up, they're through.

Then there's that mountain hazard, forest fire. This year alone a single fire reduced the life of one mill by five years when it destroyed over fifty million feet of timber. Even now the fate of the Quincy Railroad, as well as the matchless beauty of the surrounding country, may be in the hands of some careless camper or hunter.

And there, Mr. Budd, is my story of the Quincy Railroad Company. As you have seen, it's not a very large company and it doesn't make a lot of money. But as a tributary that flows into the main stream, it deserves its place on the roster of American Railroads.

Yours very truly,

Jack R. Wagner

JACK R. WAGNER

Photo by Wm. J. Pontin, Rail Photo Service

JOURNEY'S END for a Northern type. She's leaving St. Paul Terminal for the roundhouse

Not On the Wheel Report

By JOSEPH EASLEY

"Sure ya can! They didn't give *me* no water wings in *my* day!"

Light of the Lantern

RARELY SEEN, but of vital importance to the progress of railroading in general and motive power in particular, is the dynamometer test car. As its name implies this unusual piece of rolling stock serves primarily to register energy—the hauling power of a locomotive at the tender drawbar. Based upon such readings, tonnage ratings, engine efficiency, and the influence of changes in design may be determined.

Its secondary function is to record the resistance of the train behind it as affected by its makeup (freight or passenger cars, empty or under load, rolling or plain-bearing equipped), or by such outside factors as road gradient or curvature, wind resistance and train speed. No matter how many refinements or gadgets a dynamometer car may have these are its principal functions.

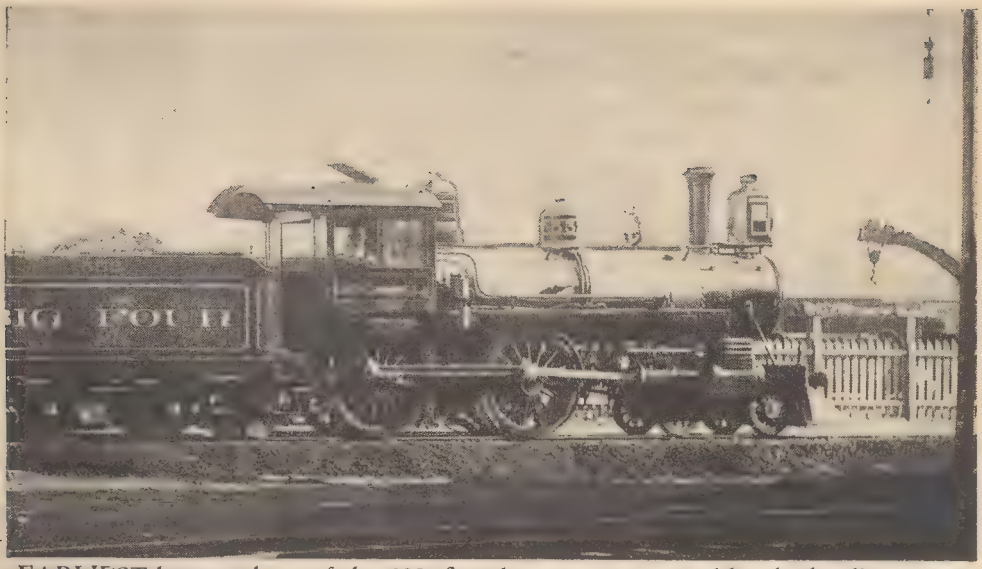
The first dynamometer car to be operated on American rails appears to have built by the Erie Railroad in 1874. According to a paper prepared twenty-seven years later by a University of Illinois professor, E. C. Schmidt, only nine other such cars had been constructed in the States at the time of his address. These, in the order of their completion, were used by P. H. Dudley, the Pennsylvania Railroad, the Burlington, the Chicago & Northwestern, the Canadian Pacific, the Chicago, Milwaukee & St. Paul, the Peoria & Eastern (under lease to the Big Four), the Illinois Central and the University of Illinois, and the Chicago Great Western.

The purpose of the University in collaborating with the P&E and the IC was clearly set forth by Professor Schmidt.

"The cars used by these lines," he said, "were built by the railroad and equipped by the University, and operated for the advantage and information of both. Such cars are considered by the University to be a part of its laboratory equipment, and afford facilities for making practical railroad tests which cannot otherwise be obtained. The railroad company gets the results of such tests at the least inconvenience to itself."

The Peoria & Eastern job, completed in 1898, was unique in being the world's hydraulic type of railroad dynamometer

By ARTHUR R. WILDHAGEN



EARLIEST known photo of the 609, first dynamometer car with a hydraulic system for measuring drawbar pull. It was built by the Peoria & Eastern Railway

Dynamometer Cars of the University of Illinois

car. Theretofor, models had always used a recording device of the spring and lever type, utilizing the deformation of springs connected to the drawbar to measure the pull of a locomotive. However, the P&E car mechanism set new standards of accuracy through the introduction of an oil-filled steel cylinder built into the underframe of the car. A piston, attached through a rod connection to the draft gear, increased the pressure of the oil, as any pull on the coupling moved the plunger, and the extent of the tug was registered by gages responsive to such changes of pressure.

Profiting by the precedent of the Peoria & Eastern car, the Burlington soon discarded its spring-scale mechanism for a similar hydraulic measurement system and from that time on the greater number of dynamometer cars have been similarly equipped. So sensitive and at the same time sturdy is the modern drawbar-pull recording device, as developed by the University, that it will indicate the force exerted by a man pulling on the coupling, or absorb the tug of an articulated locomotive as it gets a 14,000-ton coal drag under way, with equal fidelity.

Returning to the Peoria & Eastern car

EQUIPMENT added to the 609 during its long life was track inspection device consisting of wheels on split axle which registered variations of gage and rail heights, joints, etc., through oil pressure cylinders

ABOVE: Second University-equipped railway test car looked like this when she was completed in 1900

AT LEFT: Original recording apparatus in the "17." Basic hydraulic-pressure recording system was retained and improved

OPPOSITE PAGE, ABOVE: Nearly half a century saw more changes in the test car than the IC emblem. She became, in turn, the "22" and "30." Weather vane was helpful in determining wind resistance

OPPOSITE PAGE, BELOW: Oil and electric lamps indicate the period bridged by IC's first test car

—an eight-wheeled caboose bearing the number 609—this diminutive laboratory on wheels, rattling over thousands of miles of trackage during a period of forty-three years, established a scientific approach to determining operating and mechanical conditions and produced benefits beyond calculation. In its oil-lighted interior Professor Schmidt evolved a system of tonnage rating which taking into consideration tractive effort and horsepower vs. gradients (constant or rolling), track curvature, temperature and other factors already mentioned, led directly to the evolution of modern principles for determining the capacity of a locomotive.

The addition of a set of "floating" wheels to the undercarriage of the 609, together with oil cylinders to record variations of track elevation and another chamber placed at the center of the split axle where it indicated deviations of gage, broadened the car's usefulness. It was not until the latter part of 1901 that she dropped into oblivion. Just what happened to her will probably never be known. Professor Schmidt's last mention of her appears in a paper dated in November of that year. By that time the P&E had been leased by the CCC&StL

which, in turn, was to be absorbed by the New York Central. Records of the Big Four's change of status in 1923 make no mention of car 609, but it is likely that long before then she had been stripped of test equipment and returned to service as a caboose.

THE FIRST CAR outfitted for the Illinois Central by the University had a long and interesting history, which may have begun in 1893 when the railroad exhibited a fancy drovers' car at the Chicago Columbian Exposition. According to some authorities, this was the waycar later turned over to the University for equipping. Other authorities maintain, however, that a duplicate from the same plans was built by the railroad for its dynamometer tests. But whether or not the car started life as an exposition show-piece, the fact remains that it gave nearly a half-century of service, during which time it was constantly being improved and changed to try new ideas or meet new needs.

In 1907 it was rebuilt with a steel underframe. Another major change came in 1937 when a larger and stronger hydraulic system was installed. But the original wood car body continued in use and the old veteran rolled on its original wooden trucks until its end came in 1943. The number was originally *17;* in the 1920s it was changed to *22;* and in the '30s following the establishment of a new system for numbering special cars, she became Number 30, a designation which has been carried over to one of the newest dynamometer cars on American rails.

This is the ultra-modern IC-U. of Ill. model designed by Prof. John K. Tuthill and built in the Burnside shops of the Illinois Central. Much of the equipment

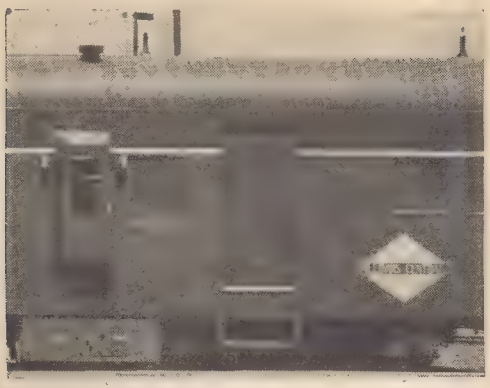
was produced in the University's shops, which turn out additional instruments as the demands of service develop. Among the latest are water meters, tested in the hydraulics laboratory and used to measure accurately boiler consumption as indicated by depletion of the tender reservoir supply; and selsyns—small direct current motors which electrically report the position of the locomotive valves, the throttle setting, and the height of water in the tender.

The new water meters have won special acclaim from testing engineers because they make a continuous record, indicating by small units how much water is brought from tank to boiler in as short a distance as one hundred feet. At the same time a counter attached to the stoker engine and callibrated for the rate of fuel delivery, can show the exact amount of coal being fed into the firebox.

The indications, including that of the dynamometer, from all these devices on the locomotive and in the test car are recorded by electrically-moved pens on a 30-inch wide paper tape in the operating compartment of the car. Through gears connected with the wheels, the tape movement under the pens is directly related to the distance travelled. A clock automatically marks 5-second intervals for time comparisons. Among the items which can be recorded are force exerted by the locomotive, speed, time intervals, wayside locations, water consumption, fuel consumption, steam pressure, back pressure, cutoff setting, throttle setting, brake pressure, wind velocity and direction.

THREE-QUARTER VIEW of new Number 30, showing stateroom and galley windows

Check locations along the run are indicated on the tape by a pen controlled through a push-button by an observer seated in a bay window of the car and provided with a spotlight so that by day or night he can read mileposts, bridge and station signs, etc. After pushing the button to make a



NEWEST product of University of Illinois engineering know-how is this swank, roll-roof dynamometer job which bears the same number as her predecessor. Replete with every scientific device for registering drawbar pull, buffing shock, train resistance and track characteristics, she has staterooms and a modern galley for her crew. Note the floodlight-equipped bay window and the side-wall ventilator louvers which furnish air to cool her Diesel-powered electric generator (used on sidings)

mark on the tape, he tells another worker seated at the chart what location reference to write alongside. These reference points have many uses, including comparison of the test record with a profile of the road being covered.

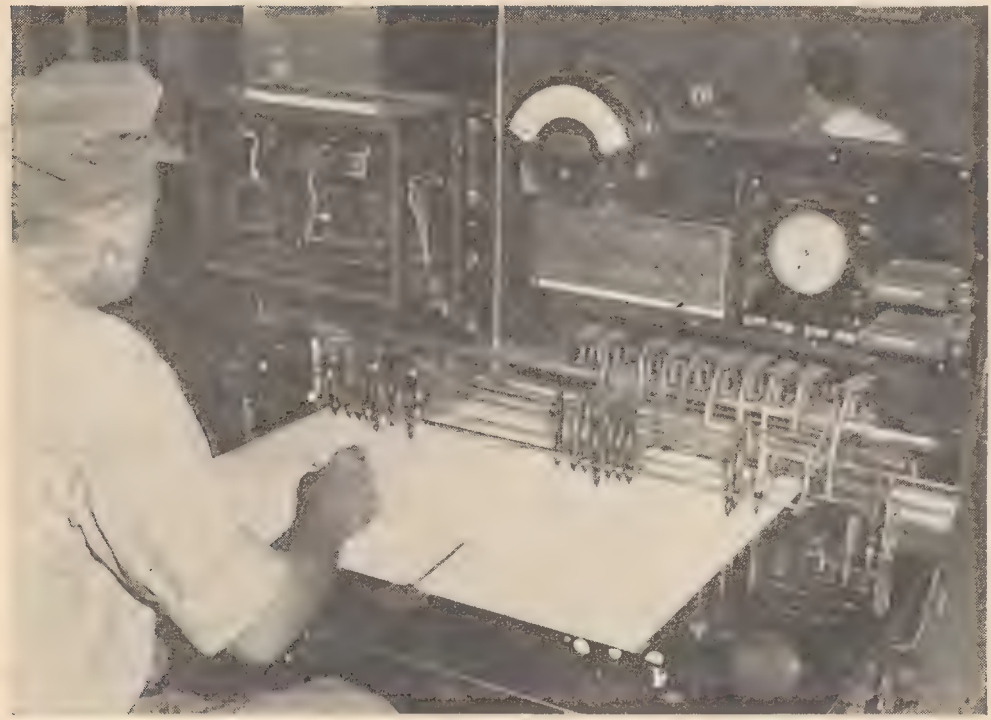
The man watching the tape at the recording table also has telephone communication with an observer located in the engine cab who reports information from that point. A heavy multi-wire cable connects the test car with the telephone and other apparatus in the engine. Lights are located high on the end of the test car to illuminate the top of the tender when workers must move between car and cab while traveling at night.

Although the car can be run in either direction, normal procedure is to haul her with the operating compartment forward. This is because the oil cylinder is connected to the draft gear at this end, and the weight of the car is thus included with the rest of the train in measuring the pull being exerted by the locomotive.

UNIVERSITY'S Professor John K. Tuthill, who designed the car

The observation bay windows, located in the walls of the compartment alongside the recording equipment, project nine and three-eighths' inches outward. Its windows do not open. Side doors into the car are located in this compartment, and are provided with waist-high safety bars. As the car is not air-conditioned, all doors and windows are covered with screens.

In addition to the operating compartment the inside of the sixty-foot car incorporates a well-equipped galley and two staterooms, each sleeping four people, a toilet, shower, washbowls, and lockers. On top of the car are a weather vane and



THEY won't write under water but these recording pens do tricks your vest-pocket version will never duplicate. Moving paper chart beneath them produces a case history of trackage and stresse. BELOW: Complexity of test car apparatus is evident from this junction and switch box

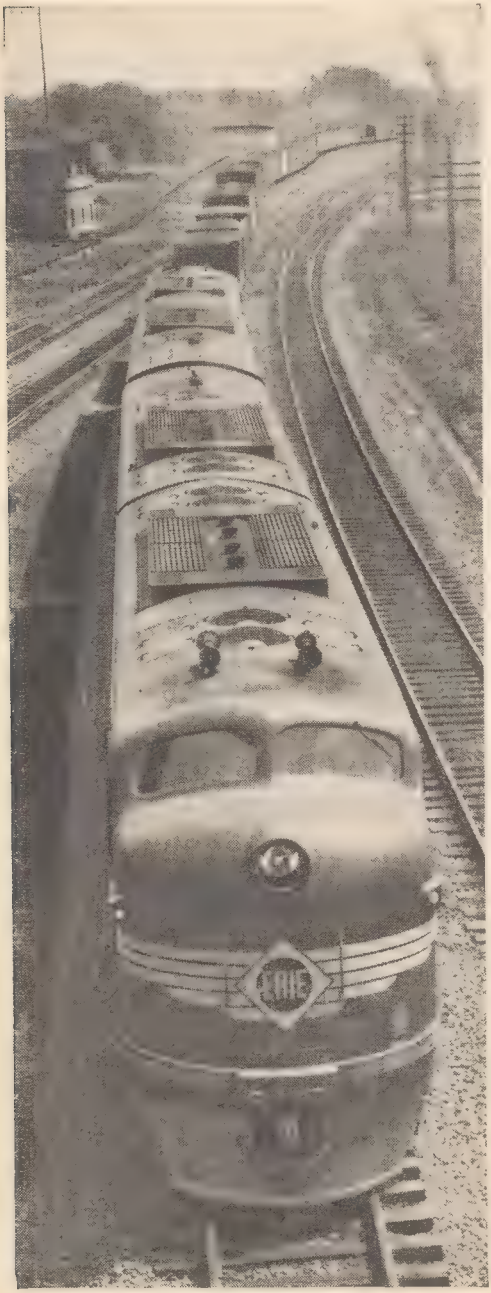
a wind-recording device, in addition to radio aerial, fillers for water tanks, ventilators, and chimneys for the galley stove and the steam-heat boiler.

Results of research with the University's cars have been reported in seven bulletins of the University of Illinois Engineering Experiment Station. These findings have been widely applied. The bulletins deal with freight train resistance, passenger train resistance, effect of wind on train resistance, effect of cold weather on train resistance and tonnage rating, and increases of resistance resulting from curves. A new bulletin on high-speed freight train resistance, carrying data on speeds above 40-miles an hour and revealing some interesting and valuable facts is now in preparation. Also in preparation is a circular discussing the University's new dynamometer car and its operation.

OOPS! I think I've detected something . . .

INFORMATION BOOTH

Each month the Lantern Department prints answers to rail questions of general interest, submitted by our readers. We do not send replies by mail.



WESTBOUND Erie Diesel slips through the interlocker at Leavittsburg, Ohio with a mile of freight

1

LIST *the number of Diesel locomotives which the Erie has in service or on order.*

The Erie Diesels, either in operation or on order, at present total eighty-two. Of these twenty-five are heavy passenger and freight road locomotives and fifty-seven are switchers.

At the beginning of 1947, Erie owned six 6000-horsepower, four-unit freight Diesels in service between Marion, Ohio and Salamanca, New York, and a fleet of twelve switchers. During January and February twenty new Diesel switchers were placed in operation. At present three 6000-horsepower, four-unit freight locomotives are on order for service between Marion and Salamanca, and seven 4500-horsepower, three-unit Diesel engines to power all Erie through-passenger trains between New York and Chicago.

Diesel power on the eastern end of the line will get a boost next October when nine new locomotives to be delivered within a two-month period, take over operations between Hornell, New York and Jersey City. Starting in July twenty-five Diesel switchers will be added to the company's roster, four for Port Jervis yards, New York; two in Susquehanna, Pennsylvania; three in Elmira and seven in Hornell, New York; eight in Marion, and one in Lima, Ohio.

2

DESCRIBE *how the degrees of a curve are established. For instance, how do the trackmen lay a six-degree curve?*

In railroad practice curves are usually designated by degrees, and the degree of a curvature is defined as the number of degrees of the central angle subtended by a chord of one hundred feet on the curve.

Photo by Peter Ker, Abbathford, B. C.

CPR'S 374 gets a trailer ride across Vancouver to her present location at Kitsilano Beach (see Item 3)

To express it simply, select two points on a curve one hundred feet apart in a straight line, then draw an imaginary line from each of these two points to the point which would be the center of a circle formed by the curve if it were continued at exactly the same curvature. A one-degree curve has a radius of 5730 feet; five-degree, 1146 feet; and a six-degree curve, 955 feet.

3

WHAT *information can you furnish regarding the Canadian Pacific's American Type locomotive, Number 374?*

This old wood-burner drew the first transcontinental passenger train from Montreal to Vancouver in May, 1887. It was a mixed train made up of colonist cars, first-class coaches, a dining car named *Holyrood* and two sleeping cars. These cars were equipped to attract Oriental travel; they were provided with baths. The silverware on the dining car was reported to be valued at three thousand dollars.

In the summer of 1945, the veteran locomotive was again run from Montreal to Vancouver. Company pensioners composed the train crew. The legend "Ocean to Ocean" appeared in large white letters on the side of the boiler; on both sides of the engine front were flags, one bearing the word *Atlantic;* the other, *Pacific.* Above were two shields marked "Incorporated 1881" and "Completed 1887." In the middle were interlocked initials, CPR; and on top in front of the stack was a large Victoria Jubilee portrait of Britain's imperial queen.

Last October 2nd, the 66-ton locomotive was moved by truck from the Drake Street shops to a permanent resting place

Photo by Ernest Johnson, Port Coquitlam, B. C.

SUNFLOWER-STACKED veteran ran under her own steam from Montreal to Vancouver.

Photo by Richard E. Prince, 1141 Larchmont Crescent, Norfolk, Va.

NUMBER 40 is one of five locomotives operated by the Aberdeen & Rockfish, which makes connection with the Norfolk & Southern and the Seaboard at the former terminal (see Item 4)

in Kitsilano Park on the shores of the Pacific. At first they planned to move Number 374 over CPR lines into the park at night. However, some of these lines are leased to the British Columbia Electric Railway for the operation of trolleys, and the company was afraid that a mishap might cause delays.

Instead of being run over the three miles of track, the locomotive was mounted on a trailer truck and carted to her destination by a route chosen because of restrictive load limits on bridges spanning False Creek. To get the pioneer on and off the truck, rails were laid carefully on crossties and beams built onto a ramp. A small crane moved alongside, clamped a hook onto the engine chassis and, with the aid of powerful cables, towed her up and down the ramp.

4

GIVE *a brief account of the Aberdeen & Rockfish.*

Incorporated June 22, 1892, in North Carolina, the first section of this road was opened June 30, 1895. An 11½-mile line from Raeford to Wagram was put in operation in 1911, and a 14-mile extension from Hope Mills Junction to Fayetteville, in January, 1913. On November 1, 1921 the line from Raeford to Wagram was sold to the Laurinburg & Southern.

Aberdeen & Rockfish mileage consists of 44.9 miles between Aberdeen and Fayetteville and 7.48 miles of sidings. Standard-gage, the line is laid with fifty-six, sixty, sixty-eight, seventy and eighty-five pound rail. Equipment consists of five steam locomotives, two combination passenger cars, and two cabooses. Headquarters are located at Aberdeen, N. C., where connections are made with the Norfolk Southern and the Seaboard Air Line.

5

WHEN *were the first circus trains operated in the United States?*

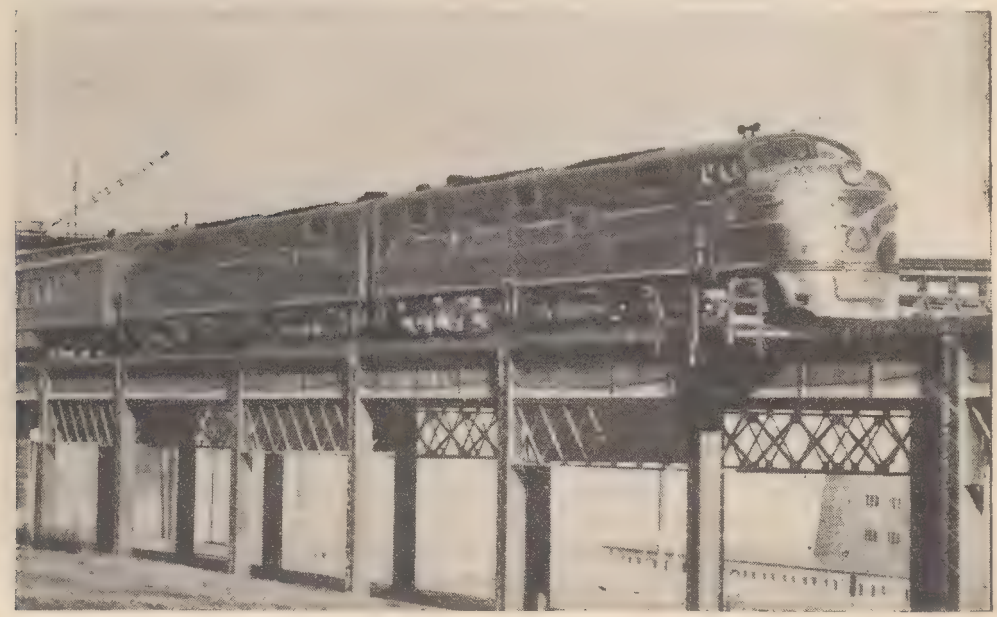
In 1860, Lewis B. Lent's New York Circus, featuring bareback riders, trapeze performers and acrobats, commenced touring the country in a twelve-car train.

6

RECENTLY *I saw a Reading Class I-9 Consolidation, with larger driving wheels than the customary 55½-inch diameter, and designated Class L-9sc. How many of these engines does "The World's Largest Anthracite Carrier" have, and where are they used?*

The Reading increased the wheel diameter on twenty of its Class I-9 locomotives—from 55½-inches to 61½-inches—as part of its postwar motive power modernization program. Five engines were altered in 1945, the remainder last year. As formerly, these heavy Consolidations will continue to operate in freight service territory.

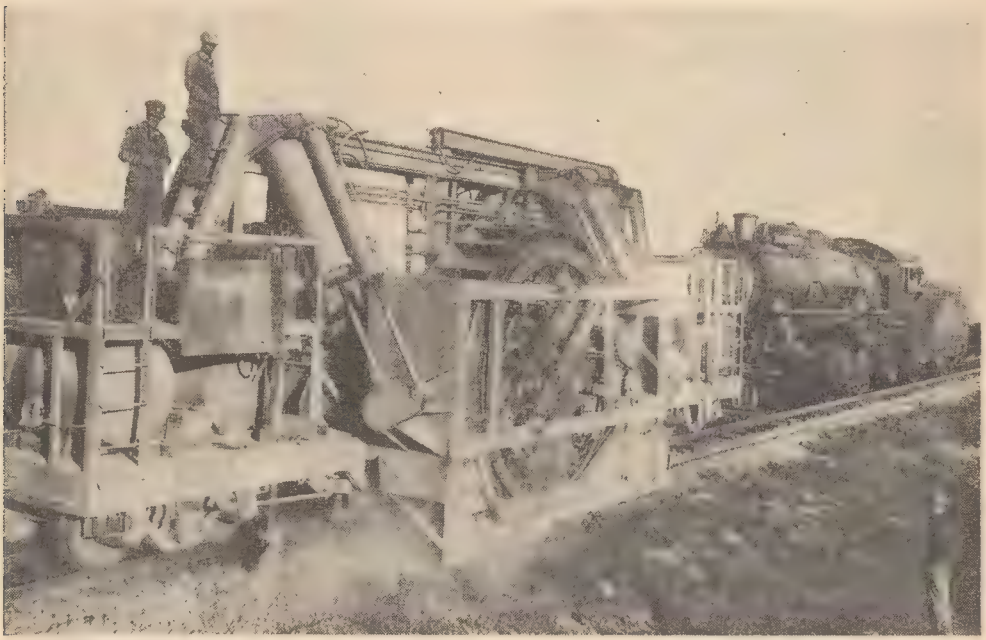
BELOW: Where Alton and GM&O passenger trains meet. The *Ann Rutledge* creeps under Eads Bridge enroute for St. Louis Union Station. *Rebel* uses windowed portion of the structure for its approach to city



7

WHAT *electric line crosses over the Pennsylvania Turnpike? Give its route and type service operated.*

Freight and express motor and passenger interurban cars of the West Penn Railway between Greensburg and Connellsville and Uniontown, and Latrobe and Scottdale cross the Pennsylvania Turnpike just north of Mt. Pleasant. These two routes meet at Hecla, just north of the Turnpike. Another stem extends east from Irwin, western terminus of the superhighway, through Jeanette to Greensburg.



REMEMBER the super track machine designed by Paul Maguire and Joe Easley? Here's the realization of that dream, cleaning ballast on, of all railroads, Maguire's own Santa Fe

REBUILT overnight coach is Erie's ingenious answer to reconversion delays and backlogged orders plaguing our independent carbuilders. Wider windows, air-conditioning and complete revamping of interior arrangements make traveling in the 1000 series an adventure in comfort

•

AT RIGHT: Basque breezes slip around this Spanish Railways' signal tower unobstructed. It's one of two identical structures recently built to control heavy traffic in and out of Vitoria, important rail center because all trains to and from the French border at Irun funnel through it

Photo courtesy Ferrocarriles Espanoles

8

I READ *that the Chesapeake & Ohio's new station at Prince, West Virginia is radiant-heated. Please explain.*

Radiant heat is the system by which buildings are heated by a series of concealed pipes, eliminating all exposed heating elements and allowing greater comfort at lower temperatures than is found in conventionally heated structures. The C&O's new station is the first in the country to install a radiant heating system, along with many other modern features. Without a basement, this building was equipped with radiant heat to eliminate the danger of cold, damp floors.

SET ON STILTS, cabs of new Paulista locomotives are worked on simultaneously from top, bottom and sides

Locomotive of the Month:

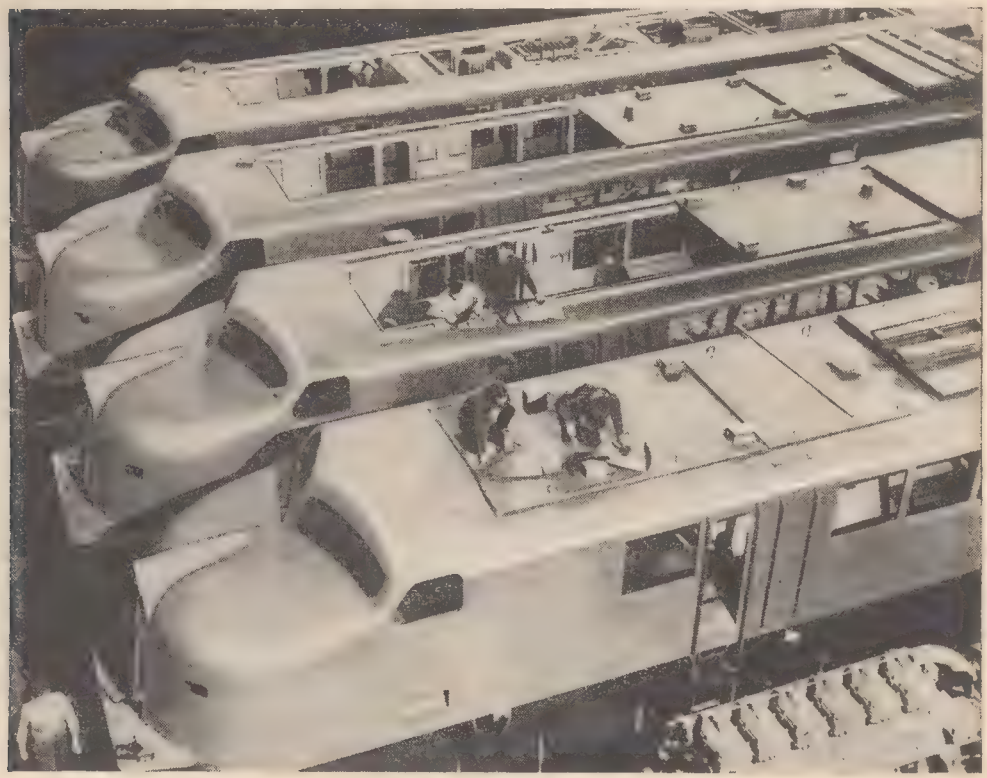
Paulista 2-C+C-2

AS ANY world traveler can tell you, they've got an awful lot besides coffee in Brazil, including more than twenty thousand miles of railroad line. Among the most progressive of these is the privately-owned Paulista Railway Company, whose principal route extends from a union with the San Paulo Railway at Jundiahy to Colombia, on the borders of the State of Minas Geraes. Electrification of this broad-gage line from the former point to Rincao—a distance of 177 miles—has created a market for American-built locomotives to the number of forty-six, of which the most recent order for twelve is nearing completion in General Electric's Schenectady plant. Duplicates of four previous passenger engines of the 2-C+C-2 (4-6-6-4) type, built by GE in 1939, their specifications appear in the next column.

Specifications:

Numbers	370-385
Gage	63 in.
Length, overall	75 ft.
Width, overall	10 ft., 7½ in.
Wheelbase, rigid	13 ft., 10 in.
Weight, total	364,000 lbs.
Weight on drivers	270,000 lbs.
Drivers, diameter	46 in.
Number of Motors	6
Tractive Effort (Cont.)	30,000 lbs.
Trac. Effort (One Hour)	34,500 lbs.
Horse Power (Cont.)	4,050
Horse Power (One Hour)	4,470
Speed (Continuous)	50.3 m.p.h.
Speed (Maximum)	90 m.p.h.

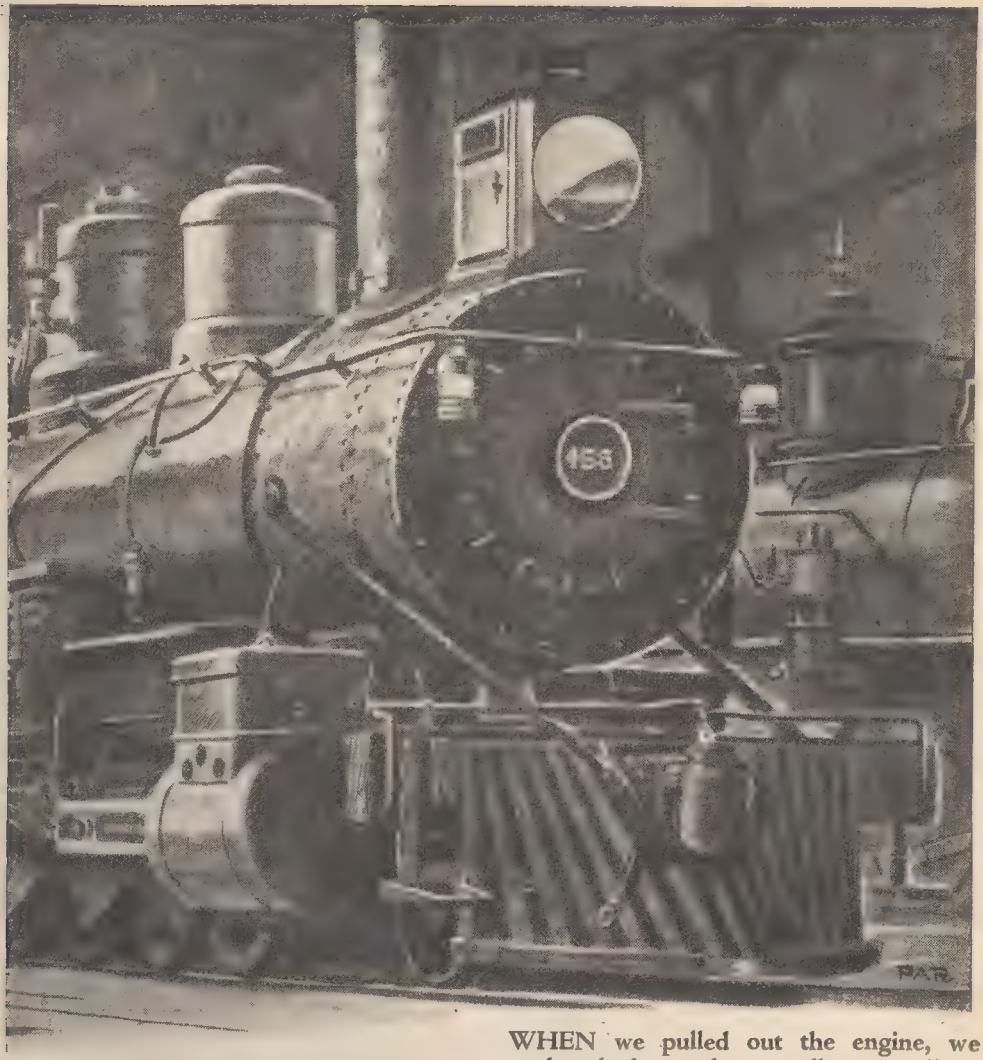
ABOVE: Completed cab is swung over its fellows for placement on articulated running gear. BELOW: Crane's eye view of four cabs nearing completion in General Electric's Erie plant



Part III

Roundhouse Rats

COLORADO'S coal strike of 1914 completely ruined business on the Denver & Rio Grande Narrow Gage. Every engine crew left working over Marshall's Pass carried two engineers; every train crew, three conductors. The company dug a little old relic out of the scrap pile then and decided to use her on the daily passenger's valley run between Sargents at the foot of the pass and Gunnison. Numbered 161, she was a 4-6-0 with a shotgun stack and a boiler which extended back through the cab. Smaller than our regular ten wheelers, the 161 proved herself a misfit right off the jump. Her short deep firebox, which



WHEN we pulled out the engine, we knocked out the roundhouse wall

By GILBERT A. LATHROP

lacked heating surface to make the required steam, didn't help.

Tom Dobbie was put back to firing for Billy Yates, owing to the slow down in traffic. Since Engine 161 and her crew laid over in Gunnison from 10:45 a.m. to 4:45 p.m. every day, it was my job to service her thoroughly. Besides filling and polishing her oil headlight, markers and cab lights, I had to check the grease cups, punch her flues and do a dozen odd jobs. And then right off the bat Tom Dobbie started giving me a bad time.

I guess I deserved it. When Tom went to light his headlight on the first trip east, it was bone dry. They made it to Sargents with only a red fusee burning on the pilot. They also pulled into Sargents with less than a hundred pounds of steam.

Next trip into Gunnison, Tom Dobbie hunted me up. At the time, I was engaged in a heated debate with Sports, the roundhouse foreman's son, about the relative merits of a couple of college gals we'd escorted home the night before.

"My boy," began Tom, in a regular

preacher's voice, beckoning me to him with a gnarled, stubby forefinger.

"Isn't one of your various duties keeping the headlights filled on all engines?"

"Yes, sir," I acknowledged.

"Then why, just why in hell did I have to burn fusees on the pilot all the way from Doyle to Sargents night before last?" he exploded.

I scratched my head. "I guess it was because I forgot to fill your headlights."

"Don't let that happen again," he warned me. "If it does, I'll personally take it up with President Mudge, who is a very good friend of mine."

Every trip Tom Dobbie was in Gunnison from that day on, he'd hunt me up. "My boy," he'd begin, in that preacher's voice, "did you fill and polish my headlight, marker lights and cab lights?"

"Yes, sir," I'd tell him.

"Did you fill the grease cups and punch the flues?"

I'd nod my head affirmatively.

Then he'd walk away muttering, "I'd certainly hate to have to bother my very good friend, President Mudge."

Rex Clark, the boilermaker, was having his troubles right along with me. Every day he had to open the front end of the 161 and try to draft her so she'd steam. But none of his expert knowledge on drafting engines did any good. Fortunately the 161 proved herself a failure quickly, and was scrapped at Salida.

Tom had an older brother, Harry, who'd been running engines over the pass since the middle 1880s. Prior to that, Harry had shipped to Peru, South America, to run locomotives over the Andes. I made it a point of hanging around the locker room whenever Harry was in town. He was a great tale spinner; some of the things he told about his South American railroading were as thrilling as the best blood and thunder yarns.

I always remember Harry Dobbie as a sturdy, short fellow in a grease-encrusted cap, holding a long oiler and flaring torch as he prodded around his 457 in the wee small hours. The winter temperature was often at thirty-five below zero, as he prepared to take a heavy train east; but it didn't seem to worry him.

Like all of the older heads, Harry owned a little cabin which occupied a place behind the roundhouse. There he slept and batched when on the other end of his run. Before 1920 Harry was pensioned by the company, and late in the 1930s I heard he was still living somewhere in Oregon. I expect Harry lived to be close to a hundred. Not like his brother, Tom, who was killed when his engine—the 451—exploded on Marshall Pass.

THE Third Division was divided into two districts for the enginemen, although trainmen held rights all the way. Salida to Gunnison was the east end; Gunnison to Grand Junction was the west end. Since the Baldwin-Pitkin branch extended both east and west from Gunnison, an agreement was reached between the enginemen that one year a west-end crew would operate the smoky end and the next year, an east-end crew.

So on January 1, 1915, Charley Hazelhurst and his fireman were displaced by an old fellow named Harry Hyatt and a fireman whose name I no longer recall. But this fellow had been so badly smashed up in a wreck, that firing this comparatively easy run was about the hardest work he could manage. Harry Hyatt was a character, a typical down-east Yankee. Tight as a drum with his money, I suspect he still had about ninety-eight cents of the first dollar he ever earned. In fact, when he was fired, it was rumored that he was worth well over a hundred thousand dollars.

About the time Harry Hyatt and his crippled fireman arrived in Gunnison to take over, Roundhouse Foreman Herman Weirick decided there was only one way to keep the wheels of commerce turning in the roundhouse: separate his son, Sport, and myself. So he shifted me to the night job of watching engines, from seven to seven.

Harry lived in a cabin behind the roundhouse. Sometimes he'd get lonesome sitting around, so he'd come over and hunt

me up and we'd chew the fat for hours.

One evening when we were perched on the machinist's work bench, and all my engines were crooning softly to themselves, nicely bedded down for the night, Harry loosened up with his secrets of success.

"My advice to you, Gil, is start out a system of savings," he said wisely. "Don't try to save dollars, save pennies. Do you know what I do?" he asked.

I shook my head.

"Well, every day Al Delo, our conductor, buys a *Denver Post.* He reads it during our trip, and when we get in, he gives it to me. That same evening I read it. Next day I spread it on my table for a table cloth. The following day I use it to dry my dishes. Then I use it for my dish rag. It picks up a little grease, so I squeeze it out into a round cylinder and lay it behind my stove. You can take it from me it makes the finest kindling to start a fire you ever saw."

"That sounds okay," I agreed.

"Now I batch," Harry continued solemnly. "Just to give you an example of what I mean by economy, last Saturday I bought a ham hock, which cost me twenty-five cents. Sunday I boiled it nice and tender. That evening I ate a little of the ham and used some of the juice on my bread for gravy. Monday I dropped navy beans into the juice and cooked them, and had beans and a little of the ham. Tuesday I sliced a few onions into the juice. By the time the onions were cooked the beans were soft enough to mash up, so I had bean soup. Wednesday I had more bean soup. Thursday I finished it up. But I still had quite a bit of the ham left. I carefully cut all the meat off the bones, ground it up and made a big skillet of ham hash. This lasted me through Friday and Saturday. Now that's what I mean by economizing."

I shook my head doubtfully. "I don't know. I sure like to eat different kinds of stuff every day."

Harry looked disgusted. "That's just the trouble with all you people. You let your appetites rule your pocketbooks!"

ONE evening Charley Bates, our night hostler, yelled for me, and I hurried to see what he wanted. Standing beside him was the cutest girl I'd seen in many a long day. Charley only wanted to introduce me to her, which made me anything but mad. It seems she'd seen me around and had developed kind of a crush on me.

Well, it didn't take me long to reciprocate the feeling. After that she'd come over to the roundhouse every evening and when I was through with my work I'd walk home with her. The romance was booming at a great pace, at least until Harry Hyatt found out about it.

Harry was an avowed woman-hater. His first wife had died, leaving him with a grown son. Shortly afterward Harry had married a smart chick just about his son's age. One night Harry came home from work to find that his wife had eloped with his son.

Ever since that day Harry, who was a devout student of the Bible, had memorized every passage pertaining to the evils of women. He knew dozens of them. When he found out about my romance, he came storming into the roundhouse and hunted me up.

"My son," he began seriously, "do you know what you're doing?"

"Gosh no," I replied. "What do you mean?"

"You're courting the same fate that overtook Samson."

"Who was Samson?" I asked.

So Harry told me the story of Samson and Delila. " 'Woman is a weak vessel!' " he quoted at the end. "So pause and consider before you continue throwing your life away on the flesh pots."

I shrugged. "Oh well, I'm just a young buck, and you know how they are."

But after that Harry would come over every night with more quotations. I'm afraid they fell on deaf ears. In fact even Steve, our section foreman, didn't interfere too much with my romance, although he scared the wadding out of me for a few minutes. It happened this way.

Steve was a Greek who spoke very good English and was very serious in his mat-

ters of the heart. Unknown to me, Steve had fallen in love with this girl friend of mine. I was leaning with my arms on the waste bin, waiting for the stationary boiler to fill up and for the girl to come and see me, when in walked Steve. It was barely light enough for me to recognize him.

"Hello, Steve."

Ignoring my greeting, the foreman strode right to me. "You're going with a girl I want to marry," he declared.

"I didn't know you wanted to marry her," I countered.

"Well, I do. So stop seeing her."

"Listen, Steve," I told him firmly, "if she wants to come over and see me, that's our business."

"I want you to stop seeing her," repeated Steve. I felt something cold and hard prodding my ribs. Looking down, I found that crazy Greek had a six-gun that seemed bigger than a cannon. "You see what I mean?" he warned.

I felt my hair rise. "Listen, Steve," I told him, "if she ever comes over here again I'll run her off with a club!"

"You mean that?" he asked seriously.

"I sure do," I promised.

Steve left and in about an hour the girl showed up. But after all flesh is weak; I was only human. The romance continued, only we took good care to not let Steve know about it.

ONE afternoon that fall, when the livestock rush was in full swing, Herman found himself short an engineer. A long train of cattle had been loaded at Sapinero, twenty-five miles west and it would take a doubleheader to boost it into Gunnison. Harry Hyatt had just arrived after making his daily trip to Pitkin. Since he'd been on duty less than five hours, he was the only available engineer. Herman had him called.

Harry flatly refused. "My run is the Baldwin-Pitkin branch," he declared heatedly. "I'm making no trips anywhere else!"

Then Herman went to his cabin. He argued, pleaded, cajolled. But Harry was as stubborn as the weather, even when Herman threatened to pull him out of service. So Herman fired him.

A short while later Harry went to general offices in Denver and got himself reinstated, and then promptly resigned. He headed back to Vermont and a few years later joined the hosts of engineers who'd taken the Final Run before him.

By January, 1915, king winter was really cracking his whip. The weather raged at around thirty below zero. Snow piled high on each side of the main line. Traffic was really weather-bound.

At the same time, coal was beginning to move over Marshall's Pass. Running the 455, one of the outside frame mud-hens, was a middle-aged fellow called Bart Copeland. A heavy-set man, Bart wore a flowing red mustache, and had the good reputation as a runner. But each time his 455 arrived in Gunnison, Bart came into the locker room to weep on our shoulders. Numb with the cold, Bart would moan, "I've reported that cab dozens of times, yet nobody will do a thing about it. The wind whistles through hundreds of cracks, and creeps up around the slot where the reverse lever goes through the floor. I might as well be ridin' the top of a boxcar over the pass."

He was right. The wooden cab on the 455 was in a deplorable condition. Even dropping the big curtain over the gangway and tying the side curtains did little good. Finally Charley Bates, our night hostler, got bumped by an older fireman, Boyde Tyrer. It was Boyde who was the hostler in charge when Bart unexpectedly got his new cab.

This night, the 455 came limping into Gunnison about 2 a.m., dragging thirty-five empty coal cars. The stars crackled in an indigo sky; the temperature was about forty below. Every stall in the roundhouse was occupied by a sleeping locomotive. Every big stove between the stalls glowed a cherry red.

After listening to Bart's tale of woe and watching him thaw out at our red-hot stove, Boyde and I tumbled out to clean the fire on the 455 and bed her down. We'd

I HIGHTAILED for another bucket, while the hostler threw cupfuls of water on the flames

have to put her on the table, turn her so we could back her toward Number 5 stall, outside the roundhouse. I tore into the badly-clinkered fire. Although the side curtain on the left was flapping loosely, I shoveled clinkers and red coals through the gangway, paying little attention to the canvas.

Having cleaned out the fire, Boyde and I spotted the engine over the small hole Sport had dug in the cinder pit and dumped her ash pans. Then we put her on the table and strong-armed it around to line up with Number 5 stall. Boyde ran her into the space between the table and the door leading into the roundhouse, and we put a chain around the wheel. Then we made sure the fire was well banked, the boiler full of water and all heaters were working.

It was close to 4 a.m., time for me to give my stoves and engines a final checkup before starting out to call the morning crews. As I worked my way from Number 1 stall down through the house, I kept noticing red reflections on the dirty panes of glass in the big doors. However, I reckoned it came from my stoves.

Halfway done, I got suspicious. I backtracked to Number 1 stall. Opening the little door cut into the big one, I let out a war whoop. The wooden cab on the 455 was going up in flames and smoke.

BOYDE!" I yelped at the top of my lungs.

The hostler came running. He took a quick look. "Get water," he shouted.

I was already going for water. Snatching up a tank bucket, I headed for the nearest tender, since all our tenders had water faucets on the sides. The first was frozen. The second was okay and I opened it wide. Boyde came buzzing around the end of the tender. He'd rustled up a tin cup in which to pack water! I filled my

bucket; Boyde filled his tin cup. Both of us hot-footed for the 455.

By the time we got to her, Boyde's cup of water had nearly all splashed out. My bucket, though, was still full. Boyde got on the running board, and began dipping water out of the bucket with his tin cup, throwing it on the flames. I high-tailed it for more water.

When we got the fire put out, the cab on the 455 was one sorry mess. We figured the red coals I shoveled from the firebox must have started the canvas side curtains smouldering. This had started the conflagration. So we waited for Herman and gave him our alibis.

The cab on the 455 was boarded up and the engine was deadheaded back to Salida. I figured the whole incident was forgotten a couple of weeks later, when Number 455 rode into town one evening, all dolled up in a new, weather-tight cab. Bart Copeland climbed off and came toward the roundhouse packing a little parcel. He hunted me up, grinning all over.

"I got a little present for you."

"Fer what?" I demanded.

"Gettin' me a new cab," he chuckled.

I took the parcel. It contained a box of fifty ten-cent cigars! So Boyde and I smoked the best for some time after that.

BUT there were more troubles in store for Boyde and myself that winter. It wasn't a month later when fate walloped us again. Because the mud-hens were longer than the little old mills used by the company when the brick roundhouse had been built back in 1882, one of them just fit with her rear drawbar about eighteen inches from the back wall. Even then the pilot barely let the big doors close.

So the smoke jacks in the first four stalls had been moved ahead to accommodate. This made a nice tight fit necessary. It also necessitated a perfect spot when running a mud-hen inside. Since our engines were always backed into the house, the hostler helper rode the front pilot step so that when the stack was directly under the jack he could shout to the hostler to stop.

Steam, fog and smoke obscured all hand signals, day or night. On the night in question the temperature was hitting close to thirty-five below zero. About 11:30 p. m. an empty coal car drag blew in from the east. When its mud-hen was finally stopped on the cinder-pit track, Boyde and I hustled out to take care of her.

Over on Tenderfoot Mountain, a lone coyote yelped and sang to a full moon. Down along the Tomiche River, restless white-faced Herefords bawled at the icy cold. I clanged the grate shaker bar against the steel apron, rattling the clinker hook and long-handled shovel as I hurried about my task. The quicker we got the mud-hen into the house, the sooner Boyde and I could resume our sleep, until the alarm wakened us around 5:30.

Finally the engine was ready to move inside. We had filled her sand dome, since tonight was one of those rare times Sport had a little screened, dry sand. We spotted her on the table, turned her so her tender pointed toward Number 1 stall. I opened the doors and hooked them; Boyde eased her slowly off the table. I caught the pilot step so I could spot her.

A cloud of steam and smoke poured from the open doors. The mud-hen whoofed softly through into the house. Dimly I could make out the smoke jack. When the stack was under it, I shouted: "That's good."

Instead of stopping, the mud-hen kept easing backward. "Whoa!" I howled at the top of my lungs. The mud-hen still proceeded. When she finally stopped, the stack was a good eighteen inches behind the smoke jack.

Sensing something wrong, Boyde climbed down from the cab. I hurried toward him, and together we walked to the rear of the tender. The drawbar was shoved neatly into the brick wall.

"I'll move her ahead," Boyde decided. "Nothin' seems to be hurt."

"Better not," I warned him. "The wall is liable to fall down if ya pull that drawbar out."

"Ya talk like a idiot," scoffed Boyde. "Get up an' spot me under the smoke jack."

"Okay," I said resignedly. After all, maybe the drawbar would pull out of the wall okay. I hoped so.

Boyde horsed her over and fed a little steam into the cylinders. The mud-hen grunted forward. From the rear came a dull rumble which seemed to last minutes. A cloud of dust blinded us. Then I felt a suspicious breeze blow around my ankles. When the dust settled, there was now a large expanse of moonlit night where the tight brick wall a few seconds before. The windows still sat where they'd always been. But between them was only atmosphere, thirty below zero atmosphere.

The brick wall had fallen out leaving an opening which embraced two full stalls. The roof above sagged and about thirty inches remained from the floor upward.

"Ya sure raised merry hell," I groaned when Boyde came down to survey the damage.

"I'll tell 'em the brakes didn't work."

"I ain't worryin' about the brakes," I grieved. "Every damned thing in this place is gonna freeze up."

"I'll help ya keep the stoves red hot. We'll work the heaters on all the engines. It's all we can do," said Boyde.

Fortunately nothing froze and burst, thanks to our efforts. Next morning Herman put the car men to work boarding up the hole we'd made in the wall. By nightfall the hole was closed.

LOOKING back on those distant days, I marvel at some of the chances we took and got away with. One evening when we came to work we found the 175, a little 4-6-0 passenger engine, singing lustily to herself. When a boiler got maximum pressure the pops would sing monotonously.

Knowing that the 175 had probably been singing this way for hours, I headed for the cab to try the water. The top-gage cock blew dry; so did the middle one. I was almost afraid to try the bottom one. It, too, was bone dry.

When I opened the firebox door to look at the flue sheet, I remembered the advice of Rex Clark, our boilermaker. "If the soot is burned off a crownsheet, look out! If it ain't, you still got a little water on it."

Poking my head out the window, I howled, "Boyde! Come here, quick."

While I waited, I smothered the red-hot fire with slack coal. Boyde hurried up and I explained what was wrong. Jerking the chain out from under the middle driver, I shouted, "Pump her."

Pumping a locomotive means moving her forward a foot or two, then reversing her, repeating the performance over and over. This gets the water on the crownsheet to slopping back and forth, if there is any. The bottom-gage cock is opened and left open. Then when the water slops it flutters out of the bottom-gage cock, letting a fellow know there's still a little moisture on the crownsheet.

Only pumping Number 175 that evening brought forth nothing but the hiss of dry steam.

"We got to get some water in her boiler," I told Boyde in desperation.

"I ain't gonna pull no injector on with me in the cab," decided Boyde.

"Nope, nor me. But I got an idea." I took off toward the store room on a lope and returned with a coil of new bell cord.

"What in hell ya gonna do with that?" Boyde wanted to know.

"Prime the injector. Tie this around the handle. Run it back through the hind window. Then you an' me will get outside an' yank on the injector. If she explodes, it won't hurt us."

Boyde reckoned I had a good idea. So we secured the bell cord on the injector handle. We primed the injector. We opened the window and crawled outside. I had the bell cord in my hands.

"Ya ready?" I asked Boyde.

"Let 'er go."

I yanked on the cord. Inside we heard the tinny whine of the injector as it went to work. Nothing else happened. After a few minutes, we ventured back inside. The water in the boiler still hadn't raised to the bottom-gage cock. It was several minutes before we got a flutter out of the bottom-gage cock. But all was well.

Seven-Million-Dollar Train

Great Northern's Dieselized* Empire Builders *Bring New Concepts of Travel Luxury to the Pacific Northwest

FIVE new orange-and-green streamliners, speeding between Lake Michigan and Puget Sound on a forty-five-hour schedule, are now bringing daily service to a region which has suddenly jumped from semi-rail oblivion to a hotspot of postwar passenger solicitation. Clipping thirteen and one-half hours from the terminal-to-terminal time of the previous *Empire Builder* which now resumes its original name, the *Oriental Limited*, the new train ushers in the duplex-roomette-type sleeping car, heretofore available only in an experimental Pullman-Standard model extensively tested in wartime service. Double-bedroom and compartment accommodations are also available in the four sleeping cars included in the consist of each train. In addition to the sleepers, every *Empire Builder* has a combination mail and baggage car, one sixty-passenger coach, three day-nite coaches (all equipped with reclining seats with retractable leg-rests), a coffee shop car for snacks, a diner seating thirty-six, and an observation lounge car.

CUTAWAY DRAWINGS (above) show interior arrangement of one of two 2000-horsepower Diesel-electric units, and first sleeping car incorporating four sections, four bedrooms and eight staggered duplex roomettes. *AT RIGHT:* Roomette brings drawing-room privacy into the low-price field

BELOW: 4000-horsepower, two-unit Diesels whisk the Big G's flagships over the 2211-mile, Chicago-Seattle route in 2700 minutes

BEDROOMS have everything from running ice-water to electric shaver outlets. Old Jim Hill, we suspect, would have complained that the windows were too small

LEG-ROOM in the day-nite coaches is ingeniously provided by drop sections in the seat backs. Venetian blinds provide light without glare, but we'll wager they won't be drawn as the train threads the southern boundary of Glacier National Park

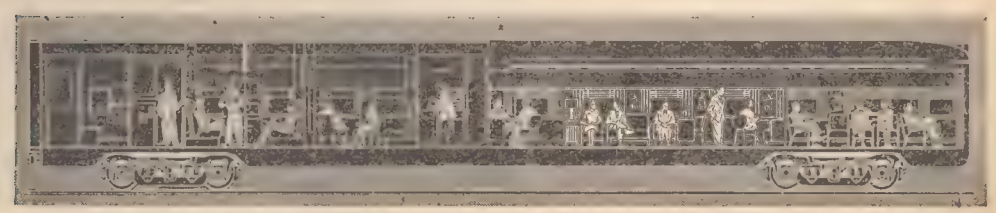
SIXTY-SEAT day coach accommodates short-haul patrons. Wide double windows give fog-proof view under all weather conditions. Over public address system comes important train information and announcements pertaining to points of scenic and historical interest along the route

ABOVE: The *Empire Builder* leaves St. Paul on her thirteen-day preview tour, embracing six states and British Columbia. BELOW: X-Ray view of forty-eight passenger day-elite coach. Pullman size washrooms occupy greater portion of car space above trucks

COFFEE SHOP CAR (above and at left) is cut in behind third coach where it does a rushing business at all hours of the day. Section behind kitchenette contains passenger representative's bedroom and dormitory for the crew

BELOW: Say! This is too good to be true. An Indian Princess bathing in a sylvan pool outside one dining-car window; and St. Mary's lake behind the next. Betcha they've got the Minnesota State House back of that third venetian blind. But it's all in good clean fun—you'll see prettier sights than these when you ride the line that "Serves the Best of the Great Northwest"

MARKER-END of the *Empire Builder* is a swank observation-lounge car, containing two bedrooms forward and a drawing room. Blackfoot Indian motif decorations, together with paintings by Winold Reiss, whose Great Northern calendar studies of members of this tribe are known to millions, set the mood for the western Montana region threaded by this thunderbird of railroad trains



Great Northern Had No Regular Op at Rondo. Yet Twice in Seven Years, Engine Crews Were Handed the Order

Stick 'em Up

By SI SHUTT and LEE STOUT

WITH drawn guns, the bandits made away with $40,000 stuffed in a mail sack

RONDO is a memory. It never was a town, just a blind siding on the Great Northern Railway four miles west of Rexford, Montana, the most northerly point on the Big G. The Canadian line is less than four miles north. When Jim Hill's engineers surveyed the cutoff from Columbia Falls to Jennings, Montana, they wanted an easier grade for his main line and access to Canada's vast Crows Nest Pass coal fields. So they built the sixty-mile branch north from Rexford, making it the cross-roads.

When the engineers pushed on from the Rexford they had staked in the wilderness, they found a freak clear strip in the dense forest that paralleled the turbulent Kootenai River. A passing track there needed no grading. They drove stakes and called it Rondo. The construction crew following them laid ties and rails and passed on. But the rails soon became rusty from lack of use. Westbound train crews stayed at Rexford on a meet because they

gained no time by going just four miles then heading in and out of Rondo. Eastbound hoggers made "Sand Coulee" skyrockets racing past Rondo to make Ma Dean's beanery at Rexford.

Yet in time Rondo got its share of attention from the road's officials. Lightning may not strike twice in the same place, but train robbers did. Two gangs climbed on engines at Rexford and made us stop at the west switch at Rondo. I was the engineer on the first train, Lee Stout on the second. Both of us are retired now, and live at Whitefish, Montana. At a veterans' banquet, not long ago, the boys stumped us to tell our stories. Here goes: by Si Shutt.

MY TRAIN was fifteen minutes late leaving Rexford one raw, October night in 1907. A blustery side wind whipped rain and sleet through the cab and Fireman Pearson and I were soaked. Chilled and thoroughly disgusted, we could talk about nothing but drinking quarts of steaming java when we got to Troy. Neither of us saw or heard anything strange before we were simultaneously prodded with big, black revolvers.

I'll never forget my first impression of

the fellow who jabbed me. He was a mean looking, wizened-faced runt. Immediately, I thought of him as the shrimp; yet he was plenty tough, and destined to die in Leavenworth. As we neared Rondo, he called in a shrill, cocky voice,

"Stop right at the west switch and we'll get the powder. And," he continued, after a few seconds, "you fellows do just as we tell you, if you want to get along with us."

Neither talked in the criminal lingo we had read in stories. At first they seemed a bit tense, but that soon passed. They went about robbing the train like farmers pitching hay. When Frankhouser—that was the runt's name—spoke again, he repeated his order.

"Stop at the west switch, hogger, and we'll pick up the powder."

This gave me the idea that the bandit's intention was to cut off the baggage car and run down the track a ways, before rifling it. His companion, McDonald, climbed down the left gangway ladder when we stopped, and went after the powder. I perched in the right cab window. Looking back along the train, I saw Maurice Hurley and his head brakeman drop to the ground from the smoker vestibule. Then the roar of Frankhouser's big Colts sounded. The pair doused their lanterns immediately by plopping the bottoms on the right-of-way. Was I relieved to see he was aiming high! I told him I had to whistle out a flag.

"Go ahead," he told me.

Once again, the idea struck me that he'd been a railroad man. The flagman's lantern appeared as that fellow dropped to the cinders and started back to guard the rear. But his light disappeared, too, when Frankhouser fired several more shots. Then Frankhouser and McDonald did something which surprised me.

I had expected the pair to make us cut off the baggage car. Instead, when McDonald returned with the powder, Frankhouser told Pearson and myself to go ahead of them to the baggage car. He lighted my kerosene torch and we followed him down the ladder, with McDonald bringing up the rear. It came to me then that ahead of the combination mail-and-baggage car was a deadhead baggage car.

If the pair told us to cut off the head car and they took that, one train holdup was sure to be a bust. They would scarcely dare to return for fear of an ambuscade. In any event, the mail or baggagemen could hide what the bandits were after by that time. But they didn't do that. Frankhouser stopped me as soon as I reached the side door of the empty.

"Now yell," he ordered. "Tell 'em to open up."

I yelled several times, but no one answered. Frankhouser stepped up, laid some capped and fused dynamite on the sill, lighted the fuse with my torch and moved back. He had certainly used dynamite. He didn't walk very far away—not far enough to suit me. When the explosion had cleared, he crawled through the hole in the door and told me to follow.

Though the car was empty, Frankhouser took no chances. He walked to the small safe, made a putty dam at the widest door crease, ran in some nitro from a small bottle and blew open the door. It, too, was empty.

"I'm thinking that *you* knew damn well it was empty," he growled.

"You wouldn't have believed anything I told you," I answered.

"Right," he said, and grinned. "Well, get out and go yell at the other car. I had to make sure when I saw the safe."

AT THE second car I hollered to Phil Lang, the mail clerk, he might as well open the door as have it blown off. It was certain that the extra car had confused them. Probably they intended to take the baggage car and run down the track far enough so the train crew could do nothing. That was until McDonald had noticed the second, when he went for the powder. Evidently they were afraid the job of watching both cars would be too much for one man, and someone had to guard the engine crew.

Phil Lang answered at once. Because there was nothing else to do, he opened

the door. He had ditched the registered pouch and later told me he had no idea there was a second pouch containing a large amount of money. This gave rise to the idea that the mail sack had been marked and Frankhouser knew the sign.

Frankhouser disarmed Lang when he jumped to the ground. Next moment he had crawled into the car. He was out in mere minutes; his voice carried elation.

"Got 'er all right, Mac," he announced. I couldn't see that the mail sack had been slit with a knife. "You fellows," he told Pearson and myself, "g'wan back to the engine. Wait twenty minutes then highball." Lugging a reputed $40,000 in a canvas mail sack, the pair disappeared in the darkness, heading towards the nearby Kootenai River.

There seems no doubt that the two were familiar with the locale. South of Rondo was wilderness, unbroken until the old Great Northern right-of-way slashed through the forest via the steep Haskell pass grade. Occasional ranches and logging camps had grown up across the river, but there was no through highway. Some people claim Frankhouser had relatives in the Fisher River watershed, which the old GN track followed. Yet no trace of their route of escape was ever discovered.

It is evident that they went to Bonners Ferry, Idaho, where they cached part of the money. Later a trail led to Spokane. They had picked up a couple of girls and shifted on to San Francisco, gone broke, ditched the women and returned to Butte, Montana. It's believed they made the second trip to Bonners Ferry from there.

Late one chilly spring day in 1908 a pair of strangers arrived in that lumbering town and steered for a clothing store. When they left, they wore new, stagged Malone trousers; red, belted mackinaws of the best grade; the finest eight-inch-top loggers shoes. They went to the nearest saloon and started drinking.

According to oldtimers, they went first to a small hotel saloon where they sipped an occasional whisky until Frankhouser jerked a six-gun. In that small room the report was deafening. A bottle of Mumm's Extra Dry on the back bar exploded into a cloud of moisture. A shattered spot in the bar mirror was still being pointed to when the hotel burned down years later.

"Have one" was an invitation seldom refused in a mining or lumbering town during those days. After the gasoline mantle lamps were lighted, the pair went from saloon to saloon and demanded that everyone drink with them. At a dance hall they bought round after round at a dollar a shot. The crowd of drinkers grew and no one was disappointed.

They bought all the champagne in town and the gang drank it from beer glasses. They squired dance-hall girls uptown, rousted out merchants at midnight and bought the girls anything they wanted, even fine watches. After midnight, they disappeared. There were four kindred spirits instead of two when they reappeared late the next afternoon. From then on the four were inseparable, appearing daily at the same hangouts and going into a private room to drink and gamble.

EVEN in the Wild West such sustained carousal couldn't go unnoticed. Railroad authorities were on the watch; their detectives arrived at Bonners Ferry and followed every move the men made. No arrests were made; the delay was an attempt to recover all possible funds with the men. Then fate played into the officers' hands.

Frankhouser and McDonald decided to go to Spokane, taking the two new companions with them. When they boarded the Great Northern Number 3 at the depot several special agents got on with them. Their job was to see that the men didn't leave the train enroute.

But their evident intention was to try for a bigger time in a larger city. The bandits looked trim and neat in their new outfits as they climbed the steps with new grips, heavy with bottled whisky. In the Pullman they bought a ticket for the drawing room. The porter got them a table and they started playing cards. While the bell rang continually and they ordered more and more from the diner,

the porter was hardly dismayed. "They suah tipped hansom, boss."

As the train stopped at Colbert, Washington, the junction of the S F & N, thirteen miles east of Spokane, the Spokane county officers boarded the train. Heading for the drawing room, they entered with drawn revolvers. They arrested the four and handcuffed them without a shot being fired.

Only one suggestive move was made. Frankhouser reached for his new mackinaw, which was hanging on a hook. An officer grabbed the jacket, but there was no gun; only a huge roll of money in one of the pockets. When the pair were searched much more was found, in all about $15,000.

Gossip has it that a rank outsider got part of the roll, since he happened to see the bandits burying it. Curious, he went to see what was going on and appropriated it. He lived happily ever after, the story goes.

Frankhouser's prior prison record was at least a term in the Montana State Prison. It reads, in part: "Received at Montana pen, Deerlodge. October 10, 1898. Term, fourteen years for burglary. Age, 26 years. Weight 136. Sentence—evidently shortened by good behavior—expired and prisoner released, January 10, 1907."

Because the crime was committed in Flathead county, Montana, Sheriff Billy O'Connell of Kalispell went to Spokane and took the prisoners back to the county seat. Before Billy landed the pair in jail, he'd determined that they were too tough to be held by a small-town jail and assigned armed guards to watch them.

Billy wired federal authorities, and officers appeared to conduct the four to Helena. Then on St. Patrick's Day, the following March, the prisoners escaped. The chase was on.

THE TALE of that chase would be dull reading, yet because of one man's doggedness in following a trail—because of a hunch and Frankhouser's final capture—it becomes an outstanding accomplishment. Martin DeLaney, a GN special agent, went from Great Falls to Fort Benton, Montana, to investigate a robbery at the Fort Benton depot. That town has historic importance, since it was the head of navigation on the Missouri River during steamboat days.

When Martin learned that nothing but food stuffs had been taken, he began to link it up with the late train robbery. He had seen the records of their progress. So on the slim chance there might be some connection, the agent moved on to Havre.

From a bartender at an old honky-tonk he picked up a clue that led him to Williston, N. D. Next stop was Minot; but there he failed to find a trace. Grimly, he chose the north line and went on to Crookston. An exhaustive search led no where until one bartender remembered that a man of Frankhouser's description had been around there for several days. Still following his hunch Martin traveled to Barnsville. In one saloon the bartender advised him to look through the peep hole in the cardroom door.

It was not Frankhouser he saw facing the door, but a Great Northern brakeman named Joe Velthouse. Joe was being hunted for robbing freight cars. Martin went in and arrested him. Then obeying an impulse, he whirled just in time to see a man slinking towards a door.

Grabbing him, the agent found there wasn't a feature he could recognize. The man wore heavy whiskers and sideburns as many ranchers did during the rigorous months in North Dakota. But he intercepted a glance of understanding between the man and Velthouse and took the pair to the Moorhead jail.

Moorhead is in Minnesota just across the Red River from Fargo, N. D. It was there that Frankhouser compassed his own undoing. After several days in jail, he told the warden he wanted to see De Laney. With much mysterious hedging—and only because his own protection was at stake—he told Martin that Velthouse had told him that he was one of the men who held up the train at Rondo. Of course Martin knew that was a lie. He

had Frankhouser shaved and his hair cut, and the man sized up to pictures he had of the robber.

For a long time officials thought McDonald had been killed by a lidgerwood cable while working on a GN work train near Crookston. Later on we began to wonder, particularly after the second hold-up took place. But that's Lee Stout's story. I'll register in now, and let him tell it.

SEVEN YEARS and a few days after Frankhouser and McDonald held up Si's train at Rondo, mine was held up at exactly the same place. And I barely missed leading a procession of B of L E brothers, because I thought it was all a joke.

When the callboy signed me in for Number 1 that night, I shivered as I listened to the wind howling outside. He told me to wear my woolens, and mentioned that Number 1 was running ahead of Number 43, which usually went first.

As I passed the beanery at Rexford, I glanced through the windows and saw several trainmen eating at the counter. I came to a stop opposite a freight engine which stood on the passing track heading eastward. Then moments later, when I pulled out, someone jabbed me in the ribs.

I figured one of the trainmen had finished eating and climbed on the engine to ride down to the caboose. Sure, I'd slow down and let him unload. But when he prodded me again, and harder, I got peeved. I whirled around and, as I did, I had the wind just about knocked out of me. Then I saw he had a gun; I simply blowed up.

"You damn so and so," I bellowed. "It's the empty gun that always shoots someone. Get off you— and fast. I ain't slowing down any."

Staring out of the window, I expected to see him roll in the snow. Instead, someone grabbed my shoulder and jerked me around, facing into the cab. In the light from the firedoor Jack had just opened, I saw a fellow standing behind him with a big revolver—or maybe it was an automatic. The fellow at my elbow had a red handkerchief tied around the lower part of his face, and the black hole in a big automatic stared me right in the eye.

"Goddam lucky I tumbled the fact you thought it was a joke," the fellow told me, "lucky for you, I mean."

While I stood staring at him, trying to remember where I'd seen him before, I latched in a notch on the throttle and Jack cracked open the blower. The armed thug returned my glare, and I became more and more certain I wasn't mistaken.

That fellow's shoulders were real broad, and he tapered down to a slim waist. His neck was so short he couldn't wear a stand-up collar. He was dressed like any other timber peeler. The red handkerchief covered all but his eyes and the bridge of his nose which was sharp as a timber-faller's wedge. Then I remembered where I'd seen him, several times before. It was at Foretine when I was pulling the local, where the local crew stopped for dinner.

"Stop at the west switch at Rondo," he ordered, as we passed the east switch. "I want to get the powder." But he changed his mind when I stopped, and sent the other fellow. I soon saw why.

The moment he mentioned powder it occurred to me, that if those fellows were train robbers, they were going to be mighty disappointed. The *Oriental Limited* didn't carry money.

"Say," I told the big fellow while his companion was gone, "the *Limiteds* don't carry money. They don't even carry a mail clerk—only through pouch mail."

He looked at me awhile then grinned. "Hell! I don't blame you for trying to string me."

"Okay, have it your way," I replied. "But I've got to whistle out a flag."

After I explained why, he let me. About that time I saw Conductor Bill Price and a brakeman drop to the ground.

The bandit took a sight on them. "Don't shoot," I yelled. "No one on this train's got a gun unless it's a passenger. And you don't want 'em chasing you for murder, do you?"

He fired several shots back along the

train but they were all aimed quite high.

JUST THEN the smaller bandit returned with the fireman. He hadn't been able to find the powder. The big fellow cussed. He told Rider to sit on his seatbox, while the short fellow stood guard. I got my fill of that fellow awful sudden.

Producing two guns, he strode back and forth across the deck firing bullets down the side of the train. Meanwhile, he tried to cover both of us at the same time. But the guns were wobbling like he had palsy.

Shortly afterward the big fellow came back with the powder. "Say, mister I sure was scart that partner of yours would shiver on the wrong trigger."

"He's a bum," the big fellow snapped. "You come with me and cut off the baggage car." Then he changed his mind and took Jack.

After Jack cut off the baggage car, we ran down the track a couple of miles. We got off the engine and approached the car. Both robbers fired point blank through the door.

"If you fellows kill someone they'll chase you to hell-an-gone," I warned them again. The big fellow ceased shooting, and halted his companion. Then they did something that tagged them as boob train robbers. They piled several sticks of powder atop the rear truck, under the floor.

"If you shoot that, all you'll do is blow a hole in the floor, ruin the truck, but you still can't get in the car."

"That's right," the big fellow agreed. "You yell at that fellow and tell him to open the door."

I hollered loud but no one answered. The leader put powder on the sill then, and ripped a hole in the door. That was the north door. They made me crawl in first. I stuck my torch in and across the car I saw the opposite door stood wide open.

When they came in, the pair searched everything in the car. The big fellow crawled through the low, narrow opening into the mail compartment and slit open a lot of mail sacks before he gave up. The second guy stuck dynamite through a switch lock on a chest.

"Hold it," I told him. I opened the chest with a switch key; it was the supply chest for hotbox repairs. They gave up then. The leader told us to go back to the engine. We got on and he told me to go ahead. They got off near the Stone Hill station and that was the last I saw of them. Going back to the train, coupled up and highballed for Troy.

A few days after the holdup I went to Bonners Ferry with special agents. A big fellow who had been arrested was walked before me as he talked to a special agent. He was not the man.

Sometime later, when I was back running the local engine, I saw a lumberjack one noon, washing in a tin wash basin on a long bench at an eating house. He glanced around as he wiped his face. I don't know if he saw me, but he dropped the towel, walked into a nearby saloon and I didn't see him again. I'm certain, however, he was the broad-shouldered bandit with the narrow nose.

Stories always spring up after an event of that kind—and some are true. Had that big fellow slit open the mail sack in a makeshift bunk the baggageman had fixed for himself, he would have got some rewards for his effort. Then there were just tall stories like the one told by a waggish brakeman who accosted the gang in the Rexford beanery the next day.

"Did you fellows hear about the rear shack on Number 1 last night?" he demanded. Getting no reply, he continued. "Well, someone checked up on him. He started back to flag when Stout whistled him out, but just then the bandit started shooting. I'm a telling you, that fellow nearly had a headender with a freight that was just leaving here. They figure he made the four miles in less'n eight minutes."

It was told that two gum-shoes went into the big woods after the bandits with bloodhounds. The dogs followed their trail which led back into the mountains, and finally to a small ranch in a fertile

THE RUNT kept his guns on us, while his confederate blasted a hole in the door

valley. It was haying time. In lieu of a wagon, a go-devil loaded with hay stood under the wide door in the barn.

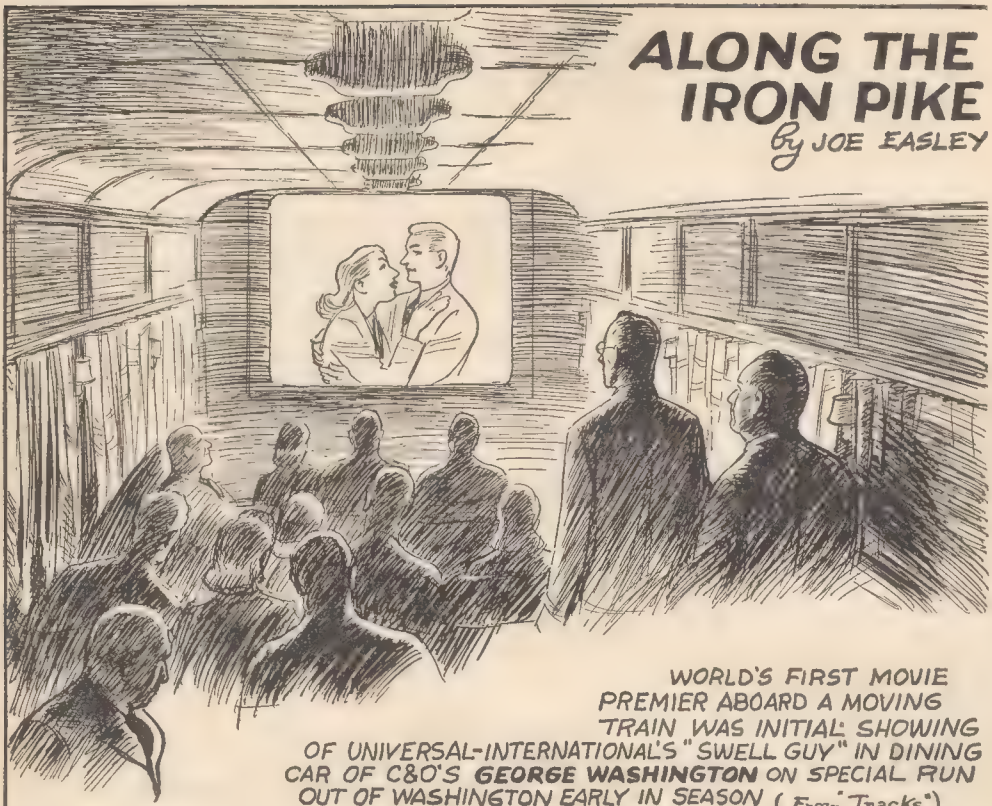
The dogs went sniffing around. They took a drink from a clear trout stream nearby and returned to the hay load, making quite a fuss. A pleasant-faced woman told the detective that her men folk had gone up the "crick to snatch a mess o' trout for dinner." The gum-shoes were tired. They'd wait and rest awhile.

But the dogs were so fussed that one of the men climbed a pole ladder and looked into the mow. Shots rang out and the shamuses jumped behind trees. A moment later two more shots roared. The dogs ceased baying.

And this is the true O. Henry ending. Number 43, the local passenger, was scheduled to run ahead of the *Oriental Limited* out of Whitefish. Then something happened the day of that holdup to delay Number 43 on the southern route, so that Number 1 passed it at Shelby. Result, two amateur bandits held up the wrong train.

ALONG THE IRON PIKE

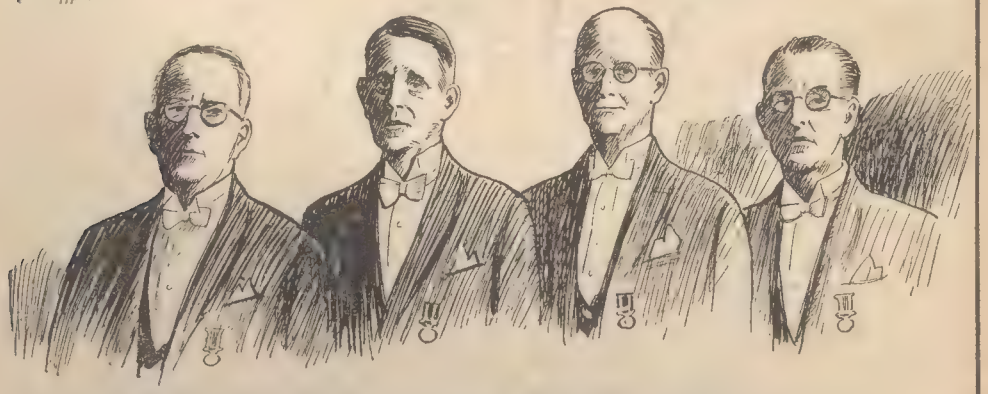
By JOE EASLEY



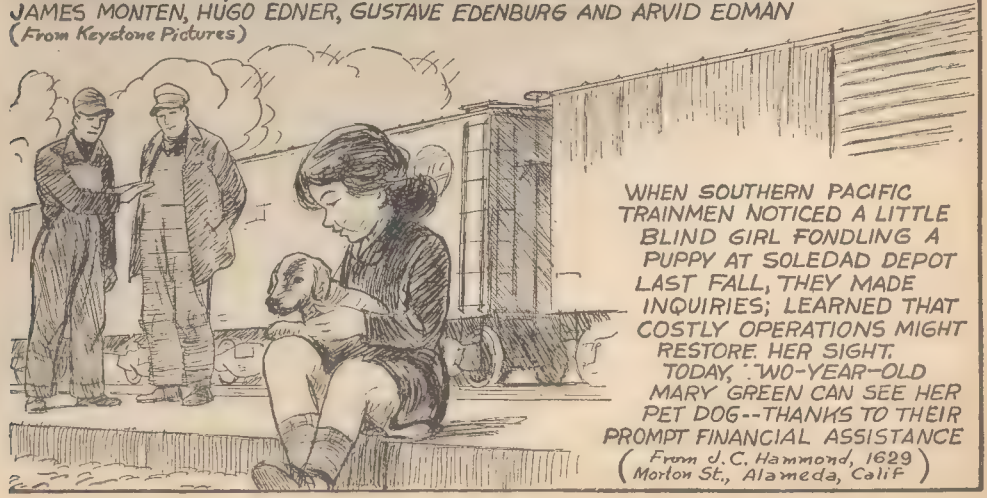
WORLD'S FIRST MOVIE PREMIER ABOARD A MOVING TRAIN WAS INITIAL SHOWING OF UNIVERSAL-INTERNATIONAL'S "SWELL GUY" IN DINING CAR OF C&O'S **GEORGE WASHINGTON** ON SPECIAL RUN OUT OF WASHINGTON EARLY IN SEASON (From "Tracks")

LIKE A MAN WITH ONE FOOT IN A ROW BOAT AND THE OTHER ON THE DOCK THIS COACH WAS CAUGHT BETWEEN TWO DEMOLISHED SPANS OF A RHINE RIVER BRIDGE NEAR DUSSELDORF WHEN RETREATING GERMANS BLASTED IT (From photo by George O. Pommer, Jr., 4311 Garfield Ave., S., Minneapolis 8, Minn.)

BACK IN 1887 GRAND TRUNK WESTERN CARRIED WEATHER FLAGS ON LOCAL TRAINS AS AID TO FARMERS. FOUR TYPES WERE USED, DENOTING VARIOUS FORECASTS
(From Canadian National Magazine)



TWO HUNDRED YEARS OF ENGINE RUNNING IS COLLECTIVE RECORD OF FOUR BROTHERS, TO AVOID PAYROLL MIXUPS ON GOTHENBURG, SWEDEN, RAILROAD DISTRICT, THEY USE COMPLETELY DIFFERENT NAMES: JAMES MONTEN, HUGO EDNER, GUSTAVE EDENBURG AND ARVID EDMAN
(From Keystone Pictures)

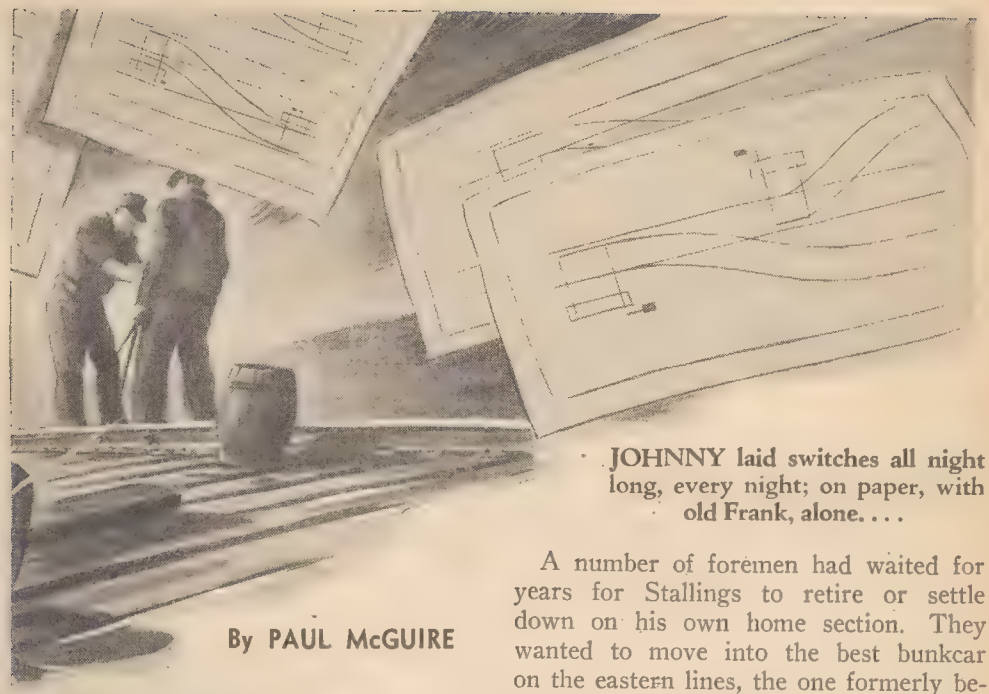


WHEN SOUTHERN PACIFIC TRAINMEN NOTICED A LITTLE BLIND GIRL FONDLING A PUPPY AT SOLEDAD DEPOT LAST FALL, THEY MADE INQUIRIES; LEARNED THAT COSTLY OPERATIONS MIGHT RESTORE HER SIGHT. TODAY, TWO-YEAR-OLD MARY GREEN CAN SEE HER PET DOG--THANKS TO THEIR PROMPT FINANCIAL ASSISTANCE
(From J. C. Hammond, 1629 Morton St., Alameda, Calif)

Ready for Promotion

SEVERAL years ago, a brilliant youngster by the name of Johnny Kapski was hired as an extra-gang timekeeper on a neighboring division. He could handle men as easily as he could turn the pages in a book, and he turned out the neatest, most accurate timebook on the division. Kapski had that natural faculty possessed by every trackman worthy of the name. He could do any part of the work after he had seen it done once. If he had never seen it done, he could improvise a better-than-ordinary way of doing it.

After the first week Johnny was doing the book work in the evenings and working the gang during the day. Art Cromer, the assistant foreman, had been on the gang for years and was known as the best pusher on the five divisions comprising the general manager's territory. Cromer would have been a gang foreman long ago except for one little failing; he never showed up for a day or so after



JOHNNY laid switches all night long, every night; on paper, with old Frank, alone. . . .

By PAUL McGUIRE

payday. Then it happened that the company took a sudden interest in Rule G. Art was fired without investigation for reported violation of the Carrie Nation code.

So Johnny was promoted to assistant foreman and continued the timekeeping as a chore, since it consumed only a few minutes of his spare time each day. The foreman, old Frank Stallings, was pretty well stove up after forty years of clambering around over loose ballast and badly-spaced ties. By custom, he had always taken the weekends off to rest in his bunkcar.

It was pure accident, of course, that the division engineer came by one rainy weekend and found old Frank in his car massaging his worn-out pins with horse liniment and hot towels. The following week, the foreman received his pension papers all complete and dated, with a large X on the line where Frank should place the small one.

A number of foremen had waited for years for Stallings to retire or settle down on his own home section. They wanted to move into the best bunkcar on the eastern lines, the one formerly belonging to Superintendent Harbinson which included furniture and fixtures. When the job was put up for bid according to the union contract, hopes rose high in the hearts of a dozen old faithfuls. Not only did the job pay about fifty dollars a month more than that of a section boss, but it carried a lot of prestige. Besides, it had frequently meant certain promotion for a man who could do the work.

However, the optimism lasted only until the roadmasters put in a busy week going up and down the line passing out the dope that the successful bidder had to be a young man. The older foremen would be disqualified, or perhaps fired, if any of them insisted on their rights to the job. So for one excuse or another, there were no bidders on the gang. Believe it or not Hot-shot Johnny, as he came to be known, was assigned to the job. Before the end of the year little Johnny, who had never run a section, was

the track inspector in charge of twenty section gangs.

For the first time in his brief rail career Johnny had a job with nothing to do, whereas he'd been accustomed to doing the work of two or three men. He rolled his butterfly special out of the barn at nine o'clock, and made a fast run to the other end of the district in time for a three o'clock dinner. His one regard for making a showing was that he never stopped for lunch, donating that amount of time to the road as he had always done in a dozen different ways.

But even on two meals a day, Kapski broadened out. He was gaining two pounds a week for a couple of weeks until finally he went into training. This was insisted upon by the division engineer, who let the word drop discreetly that Torpeeka was watching him.

The main part of the training consisted in signing a payroll deduction order for forty dollars a month to pay for an OIC correspondence course in civil engineering. In consideration for same, the representative guaranteed that the school would send a personal letter to the management each month for the next two years—or until the possible additional courses were all paid for—stating the wonderful progress that the trainee was making.

No one has yet figured out what, if any, possible benefit an engineering course worked out by a correspondence school and complete with all the answers could possibly be to a section foreman or roadmaster. However, it's the most expensive one in the catalog and naturally the commissions must be the largest on its sale. So it had become just another one of those things like officially-owned contract outfits.

NOW Johnny Kapski was sharp. During all his young life he had never found anything that he couldn't master in due time. Versatility was his middle name; he would have been equally successful as a preacher or a professional gambler. He had a way with men and was smart enough to leave women alone. He could take whisky or leave it. Usually, he left it where it belonged, in the bottle.

Working on his "answers enclosed on pink sheet," Johnny finished the first two dozen lessons on company time in less than three weeks. He mastered algebra in less than a month, mostly on company time with just an evening now and then. Geometry wasn't much more difficult though there was more of it. It took several nights a week to stay on schedule.

Trigonometry was interesting; yet after a while it was absorbing a week of his spare and company time to finish one lesson. Johnny was methodical, however, and he kept steadily ahead of the average trainee. In fact he was probably years ahead, since most of them dropped out in the middle of algebra.

Somehow Johnny knew that he had to finish his training before the spring rains came. Then, his twenty or more sections would begin to get rough with the continuous bad weather, and it would take something more than he could get out of a book to "keep them on the track." And Johnny didn't know just what that was.

The winter had passed almost without incident. He was mildly criticized for overlooking a few miles of rails nicked by a defective wheel that he didn't know were of any consequence, and for recommending the discharge of a foreman who had an almost perfect record of thirty years of service. But during the holiday season things at home took a turn for the worse with Kapski. Johnny had finished his mathematics courses and so decided to use this time to make some headway into the fine art of civil engineering which he hoped wouldn't be quite so dull.

His first problem was to design and build a 1x2 drainbox with a right-angle turn in the middle of it. That was easy for Johnny, an A-plus trainee; what bothered him was the obvious fact that the thing would get clogged with trash the first time it rained. He couldn't get that idea out of his mind. One night he was awakened by the idea—possibly hav-

ing some basis in fact—that the box had clogged and everything thereabouts was badly flooded.

His second problem was how to stake out a 5x7 ditch to carry the water into this 1x2 box. Johnny knew it couldn't be done, yet similiar layouts were to be found all over the division and here he had stumbled on the source of such ideas. It bothered him because he couldn't figure out the answer. He spent more time on the line checking such layouts, more time at night working on the problems none of which he solved to his own satisfaction, although he still got A-plus answers.

A hundred illogical designs like these two that could be verified on almost every section on his division were Johnny's next lessons. And he couldn't forget a one of them or get them out of his mind, even in his sleep. Every night there was flood, a fire, a wreck or some other disaster that he had caused by designing and staking out one of his well-learned lessons.

It wasn't long until our young hero slipped into that obvious railroad habit of shaving every other day, and although so young that he was still using his Dad's old discarded Wade & Butcher straight-edge razor, he noticed on the second day that some of his whiskers appeared gray. It was just one more of those things he didn't understand. It bothered him just like all the rest, but then he got one real break. His book was taking up *Practical Switch and Crossover Design* and that was something he did understand. That was one thing that old Frank Stallings had taught him to perfection.

Johnny worked out his first switch problem on a large sheet of drawing paper. He worked it quickly, almost without figuring, but he came out with a double dog-leg in the turnout. He worked it out again, a hundred times or more, and still that double dog-leg or reverse curve was there.

JOHNNY laid switches every night, all night long. He laid them on paper, he laid them with old Frank. On paper they always had the reverse curve in the turnout; and with old Frank, he couldn't do any better because the careless old fellow always dragged the turnout rails over the stakes and spoiled them. Then he told Johnny to line it around the curve by eye.

"Make thet curve big and smooth, me bye," he always said. "Just like Mae West's fanny," he never failed to add. The leads were always measured in carefully from the stakes but behind the frog, old Frank had told him, "Lay one rail tangent with the frog and it's got to be right."

Johnny brought his problem down to Beeville where I had fifty-two switches. Right off he asked me, "Did you ever see anything like this?"

"Certainly boy," I told him. "That's standard on this railroad."

The foreman puffed up a bit, something unusual for Johnny. "Show me one," he yelled, "just one on the whole division, and I'll be your friend for the rest of my life."

Well, we walked a few hundred feet to the old coach track and I showed him two of them. Still he wasn't convinced.

"Two old-timers like that don't make anything standard," he exclaimed. "It's just a damned poor job of doing the work in the first place."

"Come on down to the switching lead and I'll show you a lot of them," I coaxed, for he swore they weren't there. However, even a casual inspection showed that they had been there only a short time previously because the tie-plate marks were plainly visible on the switch ties. I had torn up the track to give the turnouts what old Frank called a Mae West curve.

Johnny was worried about something, I knew. I thought I might get the job of restoring the tracks to their former position and explained my license for changing them without authority. Johnny answered vaguely. A few days later he came back in the yard with a whole stack of funny-money railroading, all of which I had seen many times before. I told him

various places where he could check it for himself.

Johnny was never the same toward me after that. He never had a moment to visit; he never asked any advice. When it began to rain, I had troubles of my own; and I loved him the more for leaving me alone. In all fairness I will say that Johnny never bothered me and never wrote me up, even when he saw me doing things not quite according to the bulletin book, red book, blue book or any of the other books so useful to demerit a foreman by and with.

I was really shocked when I heard that they had taken Johnny away with a nervous breakdown. He never seemed unnatural to me; just pre-occupied and worried, which was what you might expect. During the next year, we heard from him often. He was keeping the books at the institution and continuing his studies. The others there thought him good-natured, and he was said to be very popular with everyone.

Along the line they were saying that they were keeping Johnny there for free labor. But when we made some inquiry, we found out that he was coming back to work in a short time. I was over in that part of the state to attend a grand lodge meeting and by accident I met a custodian who told me all about Johnny's stay there.

At first Johnny had been closely confined to his bed, and for a few weeks after that to his room. But he made no objections to anything. His worst spells were at night although they had ceased soon after he was allowed to visit in the ward room.

There were several college men in the ward, more homeless than helpless. Soon Johnny sat in with them and was often able to complete their crossword puzzles with "a four-letter word used to denote a straight line," or some other unheard-of term that the custodian was ignorant of. The only favor Johnny ever asked was that he be permitted to send for his lessons and they granted this gladly. They hoped study would keep him busy.

The courses not only kept Johnny busy; they were mental activity plus for his four or five instructors who shared in solving the problems. Better yet, these boys never failed to figure out a reason for the problem which Johnny kept in his field book and guarded closely. When he received his graduation notice and diploma, the men of the old school tie gave him a party never equalled before in that home for friendless men.

Some of the old coots had money that no one knew about. Some of them had influence they had never tried to use before but had saved for just such an occasion as this. They got exclusive use of the ward room for a day and a night without restrictions. They had six engraved invitations delivered that were acknowledged and accepted by the recipients. The best florist in town decorated the room; the biggest hotel served the banquet which included—believe it or not—four different wines.

IT WAS a grand affair mingled with good cheer and pathos, for *Magna Cum Laude* Kapski was leaving within the next few days. The party lasted until each member in turn had discussed the most momentous problem of the day, or at least what he considered as such. No less than three of them gave serious and inspiring addresses. One even spoke of the bright future for Johnny *outside* and coyly extracted a promise of free passes when he became general manager of the Transcontinental Railroad.

The fifth celebrant gave his recipe for success, and it was good enough for the custodian to secure a copy of it later. He memorized this and I quote here as he gave it to me:

"It is reported in the *Railway Age* that the railroads have thousands of young men in training for supervisory positions. If you are one of these, be smart, take some advice from one who has been out of training all of his life:

"First, don't be officious. When you begin meddling in other people's affairs, all hands will be against you. An injury

may be forgiven, but it is never forgotten.

"Second, don't be overly zealous. Don't try too hard, don't study too hard, don't take too many chance, don't risk it all too many times.

"Third, don't be frustrated. Selection is only the opinion of the selectors, and their choice of material varies widely. The poorest man in someone's opinion today is the best in someone else's tomorrow.

"Fourth, don't procrastinate. If you know that you are ready for promotion and have no hope here, go where opportunity beckons. Don't wait for the Old Man with the scythe to move you."

After the speeches, Johnny was presented with an expensive ball-point pen and spent the day sleeping off the mild bun. There had been many toasts.

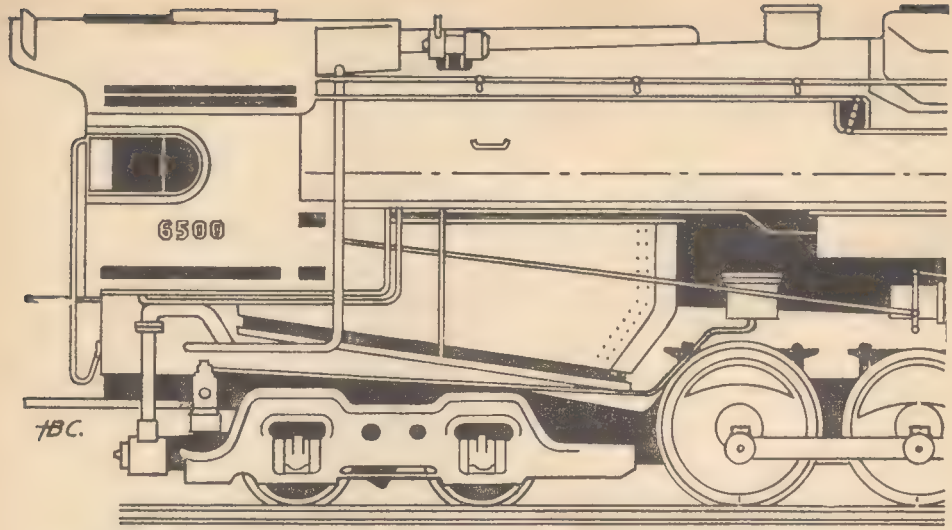
The next day Johnny began preparations to go back to his job. The custodian had given him the old Wade & Butcher straight-edge razor to shave with for the first time. Johnny asked him to go back to the office and look for the hone, while he worked up the lather and got ready to shave.

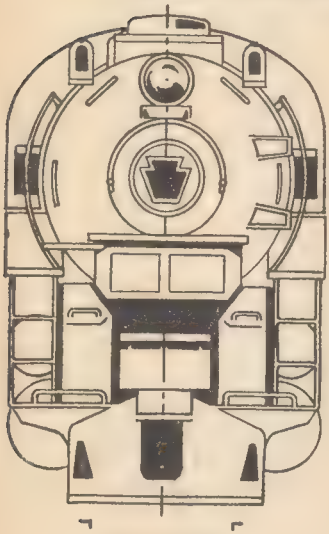
When the custodian returned, Johnny was facing the small mirror that hung on a string in front of the window. He turned his head around quickly when he heard the guard enter the room. He touched the string holding the mirror with the razor in his right hand, and it fell to the floor.

"Don't that beat all hell!" Johnny exclaimed staring at the spot where the mirror had been. "I stay here a year, work like the devil and now on the very first day that I'm free I cut off my head in one whack. I'll have to be a trainmaster all the rest of my life."

From Rail Photo Service

LOOKING down the stack of Class A, 2677, as she leaves St. Paul with the ***North Coast Limited***

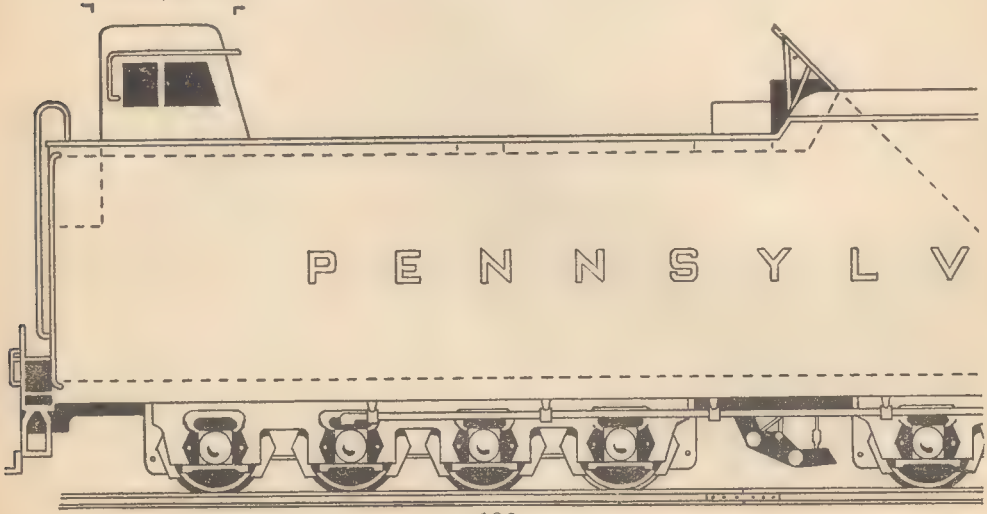


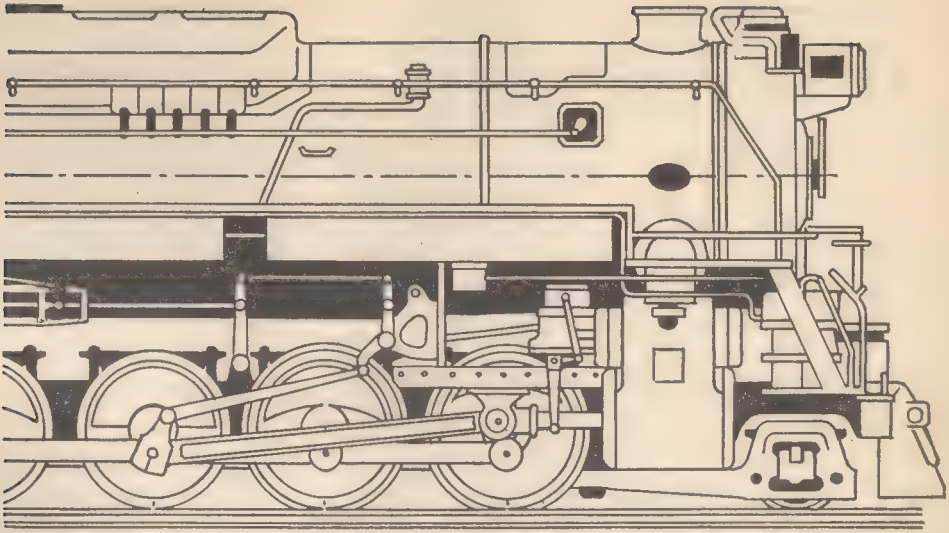


PRR Texas

HERE'S the war-baby that needs no calks to keep from slipping on the Pennsy's Horseshoe Curve. She's about as big as a non-articulated job has any right to be and when you hang a sixteen-wheeled tender behind her cab you'll probably have to knock the back wall out of the enginehouse to let her rear truck off the turntable bridge. But her full boiler contour, emphasized by relatively small driving wheels, gives her an air of massiveness and tremendous power that is frequently lacking in still longer, hinged engine types.

For negotiating minimum radius curves it might

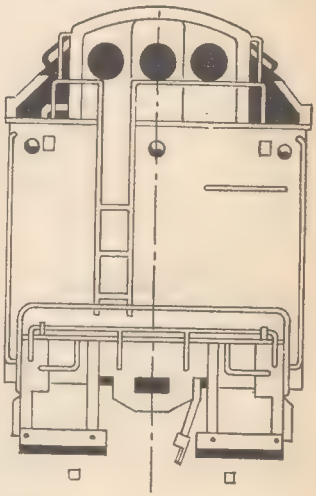


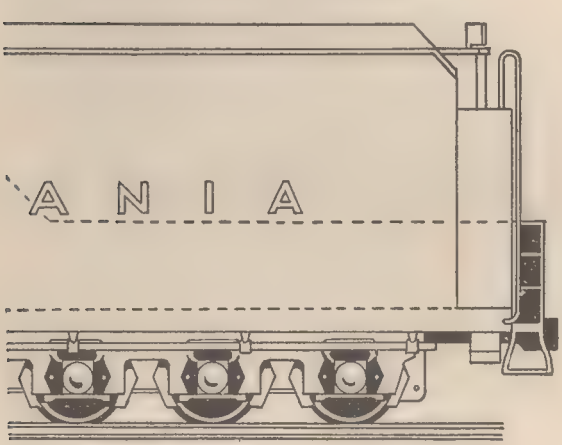


Type in OO Gage

be well to use blind (flangeless) tires on the third and fourth sets of drivers. Note that her straight cylindrical boiler breaks away from the railroad's traditional use of the Belpaire firebox. The combination sandbox and steam-dome housing is a further deviation from conventional practice, while the semi-circular forward cab window casement is to be found only on the newer locomotives of the keystone fleet. Engine and tender are painted black with gold lettering and numerals. A red keystone is the only other concession to ornamentation.

By THE NUTSPLITTER





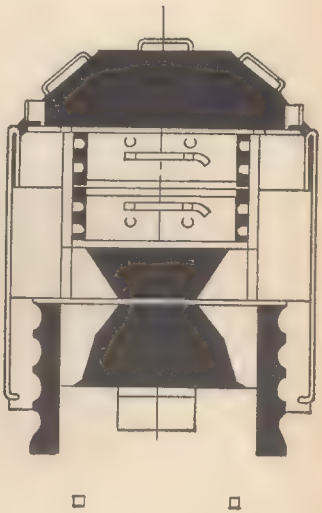


Photo by C. E. Keevil

Electric Lines:

Fast Train to Tomorrow

By STEPHEN BOGART

ARCHIE ROBERTSON can have his *Slow Train to Yesterday.* He can have a local to the middle of last week, if he wishes. And if Lucius Beebe wants his *Mixed Train Daily,* he's welcome to it. I've just taken a ride on the Chicago, North Shore & Milwaukee's *Electroliner,* the fast train to tomorrow.

For one who has never seen it, it's hard to visualize the red, green and chrome articulated interurban train easing to a halt, with trolley poles hooked down, at

a wind-swept elevated station at Adams and Wabash streets in the heart of Chicago's famed Loop. It's harder still to picture cheerful air-conditioned coaches —each with its own pastel-color motif— and an attractive tavern-lounge car running as regular-fare equipment on a trolley line. Yet while sounding suspiciously like the kind of travel railroads have been promising us for tomorrow, it is actually service that the North Shore electric line provides today without extra cost.

Grab a seat for the *Electroliner's* swift ride from Chicago to Milwaukee, a two-hour demonstration of the tops in electric travel. Leaving the Adams and Wabash terminal at Chicago, the train accelerates so smoothly you are hardly aware it has started up, until you see the windows of downtown buildings speeding by. Powered by the Rapid Transit's third rail, the *Electroliner* shows more than ordinary speed even though hampered by torturous "el" curves. It's not long before the wheels click over the switches at Lake and Wells.

There's nothing about the glass-enclosed Tower 18 located here to suggest that this is one of the world's busiest railway junctions. Yet there have been times when two hundred trains have passed this point within a single hour. If you're interested in figures, that's more than three a minute, and only over-shadowed by the fact that sometimes the tower handles three trains at once. It's no spot for a man with high blood pressure.

Once clear of Tower 18, the *Electroliner* settles down for some more fast running on Chicago's second-story trackage. Stations packed with hopeful passengers whiz past . . . Belmont Avenue . . . the Chicago Cubs' ball park . . . Wilson Avenue . . . Loyola University . . . finally Howard Street, where our Rapid Transit motorman leaves and the North Shore's crew comes aboard. Here the *Electroliner* raises her trolley poles to the North Shore's own hot catenary and third-rail operation ends.

Beyond, the tracks split into two routes. Bending to the right is the Shore Line which skirts along the Lake to North Chicago Junction, where it joins the Skokie Valley route just south of Waukegan. This latter route is the road of the *Electroliner,* an inland racetrack to Milwaukee which was constructed in 1926 to keep up the pace between the terminal cities.

CALL FOR signals as Milwaukee-bound ***Electroliner*** meets Central Railfan Number 300 and half-hidden Great Lakes shuttler at North Chicago Junction

ONCE onto the Skokie Valley tracks our speed increases rapidly. Including stops, we have to average more than sixty miles per hour. On the left a large disposal plant whips past. Seventy, then eighty. Skokie. . . Lake Bluff (where the branch to Mundelein heads westward under our tracks) . . . Downey's . . . then a neat rows of barracks, here and there a Quonset-shaped building with graceful flying buttresses, a billboard: "Navy Disbursing" something or other. We're traveling so fast I can't read it all, but this was Great Lakes Naval Training Station. During both World War I and II, this spot meant heavy freight and passenger business for the North Shore Line,

NO North Shore advertising campaign took inspiration from this arch-windowed model. But when right-of-way signs challenged the public "Have you ever traveled at 85 miles an hour?", North Shore was committed to streamstyled equipment

Photo by George Krambles

RESULT: the *Electroliner* shown *below* at ease in Milwaukee's 6th and Clybourn terminal. Two luxury-liners make five Chicago-to-Milwaukee roundtrips daily

and the recent windfall did much to bring the road out of the slump that had plagued it during the Thirties.

Just beyond Great Lakes, the electro-pneumatic brakes go on smoothly, with none of the bumping and grinding of ordinary railroad brakes. The train halts for a moment at North Chicago station. Here the Shore Line and Skokie route meet, then diverge, the former heading up the beach to Waukegan, where it terminates. It connects there with CNS&M motor coaches which service other shore points.

Outside North Chicago it's more speed. Yet inside this luxurious train, you can talk in a normal voice; if you wish, sip your soup without slopping any around the tavern-lounge car. For there's no sidesway or up-and-down motion on this road. The land is level, and it seems as though even the trees hesitated to break into the skyline.

As the suburbs of Chicago drop behind, neat stucco cottages flash by, flanked by a

few parked autos. Actually these are stations which the slower trains accommodate, though to men raised on soot-and-cinder railroads, they seem more like honeymoon cottages. Even the dark green section houses look like prospective places to set up housekeeping. Only the sight of the maintainer's gas-chewer betrays their real purpose.

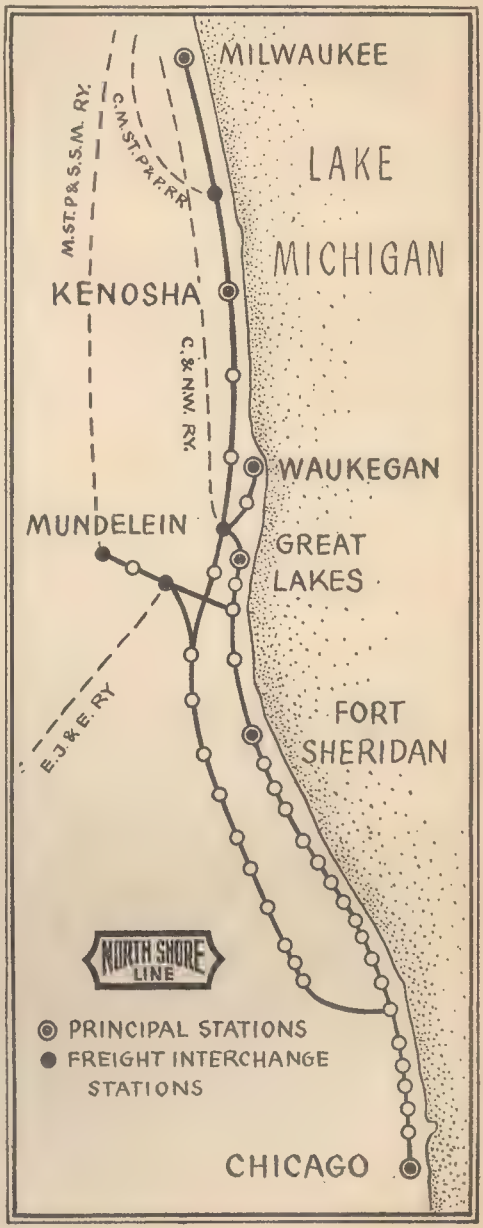
There's a stop at Waukegan, hometown of the ubiquitous Jack Benny. Six miles and seven minutes beyond, the tile roof of Zion depot comes into view, and nearby, the home of the well-known House of David. Nine minutes later we cross the state line and into Wisconsin at Kenosha.

The North Shore line gets competition from Kenosha into downtown Milwaukee from the Milwaukee Electric. That line is however, nearer to the lake. Now owned by a bus outfit, this rival interurban is destined for an early demise. Beyond Kenosha, there are points where we can just see its right-of-way across the half mile of flat country. If we're lucky, we may catch a glimpse of one of the green-and-yellow electrics making tracks for the city.

Next stop is Racine, the city Fibber McGee made famous. It's supposed to be a 23-mile trip into Milwaukee; but before you know it, your *Electroliner* is rolling down the middle of the street in Milwaukee city limits. Occasionally you pass local Birney cars on the double track. A mile or so beyond we rumble over the Menomonee River bridge with heavy auto traffic. Ahead is the train yards of the North Shore terminal; on the right, the Milwaukee Road's yard and trainshed, filled to capacity with orange and red cars.

Sixth and Clybourn, where the North Shore terminal is located, is a fascinating spot to railfans. It's a five-way street intersection, with part of the CNS&M's terminal throat right out in the middle of the street. Each time a North Shore train enters or leaves the terminal a courageous switchman, protected by a voodoo fetish that looks surprisingly like a red flag, fights his way into the stream of traffic to pry open the switches. As soon as the train passes, he must throw them back so the Birneys, using the same rails across the bridge, can proceed to their own routes.

Leaving the *Electroliner* at the terminal, you step outside and find the track of the Milwaukee Electric's interurban lines to Waukesha and Hales Corners passing in front, then turning left, moving along right beside the Terminal. Every so often



one of the big green and yellow Waukesha interurbans rolls past and at Sixth and Clybourn comes close to North Shore tracks, though it never actually joins them. Down below, toward the Milwaukee Road yards, you can see a little orange Diesel switcher shuttling back and forth between the terminal and coach yards. There's a turntable here, too. Frequently you'll see a postal car or some other piece of single-ended equipment taking a spin.

HISTORICALLY, the North Shore line dates back to the Little Bluff City Electric Street Railway, which started operation in Waukegan, Ill., in 1894. The interurban lines north to Milwaukee and south to Evanston, its first southerly terminal, were completed for through service on October 31, 1908. At Evanston, the Chicago & Milwaukee Electric—as it was then known—connected with the Northwestern Elevated line into Chicago.

In later years, the direct connection with elevated tracks was made, allowing the North Shore cars to go directly downtown in Chicago over elevated tracks. It's safe to say that had this not been done, there would have been little chance of any North Shore Line today.

In 1926 the Skokie Valley cut-off was constructed in a period of only ten months. This 16-mile stretch of catenary with first-class roadbed enabled through trains to eliminate the slower running through congested lake shore communities, and to operate the distance with controllers wide open. For advertising purposes, the line erected signs along its road reading, "Have you ever traveled 85 miles an hour?" And in 1926 that was considered an unheard-of speed by the majority of the public.

There are two *Electroliner* trains in all, making a total of five roundtrips daily between Chicago and Milwaukee. Each is 155 1/3 feet, and was built by the St. Louis Car Company in 1941. Capacity loads total 146 persons seated: thirty in each of the three coach sections, twenty-six in the tavern-lounge.

Fare for the 85-mile Chicago to Milwaukee trip is $2.15 one way, and regular coach tickets are good on *Electroliner* trains at no extra charge. It's a treat in store for you next time you visit the Windy City. Besides easy riding at top speed and cushioned comfort, you can visit the tavern car for one of those famous *Electroburgers*—a hamburger a la *Electroliner*.

NEXT STOP, Howard Street in Chicago. Passengers come aboard at Skokie Valley and Shore Line junction

AIR TRANSFER: first step in Third Avenue 884's switch from Bronx to Branford was aerial leap onto a river barge. Shipped to New Haven trackage, she completed journey by rail

Photo by Sidney Silleck, Jr., Country Club Apts., Hartsdale, N. Y.

Car Barn Comments

RAILWAY history was made on March 9, 1947, when the Branford Electric Railway Association formally took over control and operation of its 1½-mile double track located on private right-of-way near East Haven, Conn. Thus it became the first railfan group to own and operate a line, being publicized throughout the U. S. as the "only operating trolley museum in the world".

Steve Maguire

The track, formerly part of the Branford line of the Connecticut Company operating out of New Haven, was abandoned on March 8th. Following an agreement previously made, the BERA obtained ownership as soon as the regular cars discontinued service. Your Electric Lines Editor was among the sixty BERA members and guests present for official ceremonies.

The Branford line, incorporated on V-J day after months and months of planning, now claims four hundred members. Its goal is one thousand members, all with rights of operating the cars, inspecting the property, and so forth. Funds obtained from memberships are to be used in making repairs, constructing a carbarn, paying expenses of obtaining new equipment, and other necessary obligations. Regular dues are twelve dollars per year, with ten-dollar initiation fee.

Down payment has already been made on a large Quonset hut to house the equipment. A property mortgage for $10,000 is being floated to cover other expenses, subscriptions of $500 and $1,000 are being obtained, with guaranteed interest at six percent annually. Richard Norman, 4 Broadway, Norwich, Conn., will be glad to furnish all details to those interested.

The present roster of BERA includes eight pieces of equipment: Number 34, a single-truck open car, formerly operated by the Five Mile Beach Electric at Wildwood, N. J.; No. 33, single-truck, ex-cable car from the Third Avenue Transit Company of New York City; No. 2350, single-truck Birney from Connecticut Company's Middletown lines; No. 830, double-truck closed car from New York's Third Avenue Railway; No. 884, double-truck tars convertible car; Nos. 656 and 923, double-truck Connecticut open cars. There is also a handcar which formerly made time on the New Haven to the beat of the operator's muscles.

While several other railfan groups have obtained cars for prospective operation, none has been as fortunate as BERA in securing a large amount of electrified trackage. The Seashore Electric at Kennebunkport owns no less than twelve cars; still it hasn't laid enough rail to even hold that number. In East Windsor, Conn., the Connecticut Electric Ry. Assn. owns one car but no operating track. The Bay Area railfans located around Oakland, Calif., own an ex-Napa Valley car and are in the process of adding several Key System Transit cars. Yet as far as we know, they've not located any land for operation.

Photo by Sidney Silleck, Jr.

SECOND double-truck trolley to leave New York for Branford, Conn., railfan owned and operated 1½-mile electric. Number 830 is one of seven passenger streetcars on the roster

JUDGING from an enthusiastic response, our recent Connecticut Company story was popular with readers. Theodore Vaill, Manager of the *Citizen,* Winsted, Conn., says the story of the isolated Torrington & Winchester line is fresh in his memory because he's been conducting a "News of 50 Years Ago" column in the *Citizen.* Half a Century ago, local news was keynoted by the story of the Winsted line's construction in 1897.

"About half way between Torrington and Winsted," says Vaill, "a branch ran over to Highland Lake, operating during the summer to take folks to an amusement park. This line was about a mile in length; but on one trip I saw 123 fares run up on the register. At one time we had several cars lettered *Consolidated,* and I've always wondered where they came from. Then just twenty-five years ago, three new cars were added, numbered 3000-1-2. On abandonment of our line in January, 1929 they were taken to New Haven and I understand they're still in service there."

George W. Booth, SP engineer, 11550 Friar St., No. Hollywood, Calif., writes, "The April issue touched a tender spot in my heart. Many, many years ago I handled a controller in Hartford, Conn. I was working with juice when the Connecticut Company and its parent, the New Haven Railroad, were trying to outdo each other in the matter of serious accidents. And often I've wondered whether I was not the cause of the series of accidents that followed my plowing halfway through a suburban passenger car on the old South Glastonbury line, for this accident seemed to touch off a number of terrific head-on

COMPLAINT of Ronald Harrison (*January issue*) on having an electric railway department in a steam railroad magazine has been challenged by stout juice-fan readers. Here are a few excerpts in our defense.

"Looking over *Railroad Magazine* I notice that out of the total 145 pages only seven are given to Electric Lines. Certainly the steam-only fans don't begrudge us just a little space." Maurice Klebotl, 215 Wabash Ave., Effingham, Ill.

"My father was an interurban motorman in years past, too, and I'm proud of the fact. Space devoted to electrics brings pleasure to many readers. I'm not selfish and I think most people are the same. Any material I don't like, I skip over, figuring there are others who must enjoy it, "says R. Wright, 517 E. Adams St., Phoenix, Ariz.

"You can add my name to the list of Electric Lines readers, as your column is the first I turn to," writes C. B. Metzget, Railway Express employe of Dayton, Ohio. He adds that during 1947 Dayton may see its last streetcars on Fifth and Third streets. The City Railway has ordered trackless trolleys to replace these last two car lines in that city.

WHAT WAS, but isn't. In 1946 Yakima Valley ran the last passenger trolleys in Washington State; last February 2nd, Number 22 made its last run, as line became "freight only"

•

PACIFIC COAST had three steam dummies in the don't-frighten-Dobbin days. Below, the *Senator Perkins* and *Wm. McKinley*

Photo by R. P. Middlebrook, 2744 Columbia St., San Diego 1, Calif.

collisions. Eventually, the road installed block signals in place of our oral orders, for the verbal instructions were of course dangerous. In some cases, crews themselves arranged meets, especially when extras were following regular trains part way.

"I don't agree that the Hartford-Rockville line was the fastest on the Connecticut Company unless the East Hartford-Stafford Springs route that ran over the NH to Rockville was meant. In my opinion, the fastest lines out of Hartford were the New Britain and the Unionville line, both having speeds up to 60 m.p.h."

Donald Shaw, 94 Federal St., Springfield 5, Mass., reports he is in the process of writing a book on the New Haven's trolley ventures in New England, which he expects to publish next year. "Your map did not indicate actual breaks in the continuous rail—for instance, the Bristol & Plainville Traction was separated physically, from the Connecticut Company at both Plainville and Compounce, although the tracks were only a few feet apart at both places. In Ware, Mass., there was an unusual situation. Tracks of Springfield Street Ry. and Ware & Brookfield Ry. ran side by side down the street, but were in no way connected."

VERMONT'S Springfield Terminal Number 10 bound for Charlestown, N. H.

CABLE CAR enthusiasts will be interested in feature stories on the San Francisco famed lines, which appeared in publications just a short time ago. *The Headlight,* official publication of the Western Pacific RR, devoted its March cover, plus an editorial and feature story to a sentimental defense of the Golden Gate City's lines. For information, write Western Pacific Club, W. P. Bldg., San Francisco 5, Calif.

Headlights (similarity in title to above is accidental) published by the Electric Railroaders Assn., included a story of the San Francisco cable cars in its January-February issue. Monthly bulletin is obtained with yearly subscription at rate of $1.20. Further details can be obtained from the E.R.A. at its new headquarters in Lackawanna Terminal, Hoboken, N. J.

* * *

WHAT may be a turn in the general trend in the Public Utility Commission's handling of applications for substitutions of buses occurred in the District of Columbia recently, when the Capital Transit Company asked for abandonment of the busy Benning electric line. The request was *denied* by the PUC, in spite of the approval of same by several "moderization" groups. In turning down the application, the PUC held it would only add to the present congestion of downtown traffic, already a major problem.

John Shelford, professional engineer, 105 Joliet St., S.W., Washington 20, D. C., calls our attention to the fact that the CTC was willing to buy two hundred new buses to replace the trolleys, although it objected to paying a considerably lesser sum for track repair along the Benning line and installation of several turnaround facilities for PCC cars which will replace older equipment.

* * *

FOR the second time within a year, Utah has seen the end of service on an interurban line. Now it's the Utah-Idaho Central, a 155-mile interurban from Ogden to Preston, Idaho, and the last trolley line in the state of Idaho. The end was not too unexpected, for the condition of the line and its financial status had slated it for abandonment as soon as possible. The road went into receivership in December, 1946.

The last UIC train made its run on February 15, 1947, passenger service having dwindled to one train a day by that time. This was just fifteen days before the first anniversary of the abandonment of the Salt Lake & Utah interurban. UIC,

an outgrowth from the Ogden Rapid Transit, was extended north from Ogden between 1906 and 1915. As buses entered the picture, through bus runs were gradually substituted for interurban trains, and the buses will continue to give service after abandonment.

* * *

ELECTRIC operation of freight-only pikes, too, appears on the way out in the Far West. Warren K. Miller, San Francisco, Calif., summarizes the present situation. "The Tidewater Southern operates electrics, along with a Diesel and two steam engines. Due to franchise requirements in Modesto, Calif., they use the juice locomotive in that city. The Sacramento Northern is all-Diesel now on its Northern Division, and plans to take up third rail and abandon its Oakland and Walnut Creek route. From Walnut Creek north to Sacramento, Diesels are to replace third rail. But the electrics will be retained in Marysville, Sacramento and Chico, including their only passenger run, the Birney car at Chico. Again, the reason for retention of electrics is franchise requirements.

"Central California is now all-Diesel except for the city of Sacramento where, on account of franchise difficulties, electric service will be retained and motor No. 7, a former WB&A car, will give service. Petaluma & Santa Rosa, another freight-only pike, has gone all Diesel except in Petaluma, where electric service is being maintained for local switching."

Not a happy situation for West Coast juicefans, is it?

* * *

ADD to the list of last runs, the Akron Transportation Company and York Utilities Company of Sanford, Me. According to Bob Richardson, 34 S. Union St., Akron 8, Ohio, Akron said good-bye to streetcars on March 23rd, when the last remaining lines of Northern Ohio Traction Company were abandoned. The Akron line at this time was a far cry from the extensive Rubber City's interurban empire of the earlier years. It consisted in a single run into the Kenmore section of the city.

The little two-mile York Utilities line at Sanford, Me.—which gave up passenger service during April—was another remnant of a larger line, the Atlantic Shore Railway. It obtained publicity only two months before, when one of the two passenger cars derailed and went over the highway, coming to a stop halfway over the edge of a high embankment at the river's edge. Fortunately the car didn't topple into the stream, but the photograph of the accident showing car with destination "river" was widely circulated by the Associated Press. This was the last passenger trolley in the State of Maine.

COMBINED steam and juice on Tidewater Southern, before coming of Diesels

Photo by Robt. Hanft, Berkeley, Calif.

Photo by F. R. Hayworth, Jr., 8124 Seville St., South Gate, Calif.

UP yard goat ready to snake a streamliner out of L. A. Union Station

Photo by Alfred Holek, 2226 S. 20th St., Lincoln, Nebraska

LONG-STACKED Consolidation at Lincoln. She's the 47-year-old 418

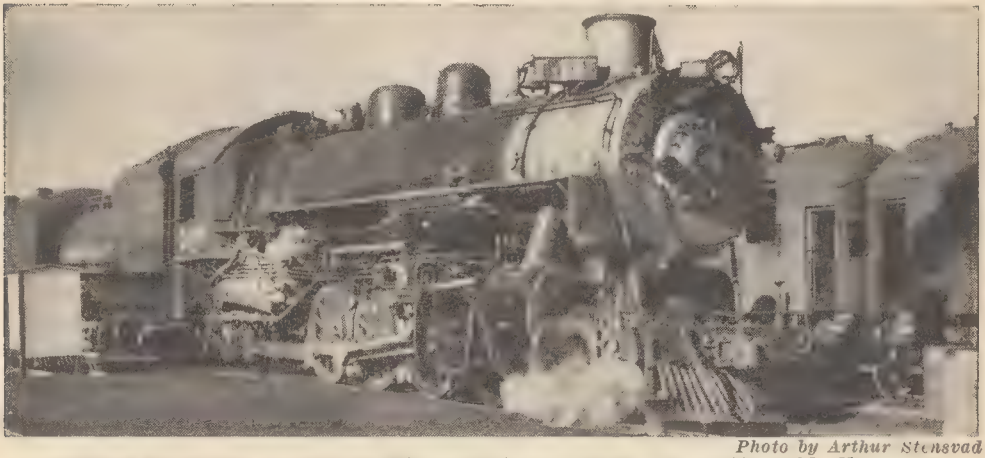


Photo by Arthur Stensvad

MIKADO 2289 leaves North Platte, Nebr., with First 88, ***(The Challenger)***

Locomotives of the Union Pacific

Including Oregon Short Line (OSL), Oregon-Washington Railroad & Navigation Co. (OWR&N), Los Angeles & Salt Lake

Steam Locomotives

Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
Shay-Geared Type						
59 (LA&SL) (3)	13 x 13	33	175	146,800	26,900	Lima, 1902
61 (LA&SL) (3)	13½x15	36	200	200,100	35,100	Lima, 1907
0-6-0 (Switch) Type						
4230, 4233, 4234 (LA&SL)	20 x 26	57	180	150,000	27,915	Baldwin, 1905
4235, 4238, 4239 (LA&SL)	19 x 26	51	175	140,000	27,376	Baldwin, 1907
4240, 4241 (LA&SL)	19 x 26	51	175	145,000	27,376	Baldwin, 1913
4244 (LA&SL)	21 x 26	51	180	157,500	34,400	Lima, 1921
4245, 4246 (LA&SL)	21 x 26	51	200	157,500	38,220	Lima, 1921
4405, 4407, 4410–4417, 4420 (UP)	19 x 26	51	200	154,680	31,290	Baldwin, 1913; Lima, 1914
4421–4428, 4430–4438, 4440–4450 (UP)	21 x 26	51	200	156,000	38,220	Baldwin, 1916–19
4439 (UP)	21 x 26	51	180	156,000	34,400	Baldwin, 1918
4451–4467, 4469–4480 (UP)	21 x 26	51	200	159,000	38,220	Lima, 1920
4468 (UP)	21 x 26	51	180	159,000	34,400	Lima, 1920
4600–4609 (UP)	21 x 28	51	200	165,000	41,160	Alco, 1918
4703 (OSL)	19 x 26	51	175	142,840	27,376	Alco, 1908
4736 (OSL)	19 x 26	51	200	142,840	31,290	Baldwin, 1912
4741–4744 (OSL)	19 x 26	51	200	154,680	21,290	Lima, 1914
4748, 4750–4752 (OSL)	21 x 26	51	200	156,000	38,220	Baldwin, 1918
4753, 4754, 4756 (OSL)	21 x 28	51	200	165,000	41,160	Alco, 1919
4909, 4912–4915 (OWR&N)	19 x 26	51	175	140,000	27,376	Baldwin, 1911
4917–4922 (OWR&N)	19 x 26	51	175	145,000	27,376	Baldwin, 1913
4923–4926 (OWR&N)	19 x 26	51	200	154,680	31,290	Baldwin, 1913–14; Lima, 1913–14
4928 (OWR&N)	20 x 26	57	180	146,400	27,915	Baldwin, 1905
2-8-0 (Consolidation) Type						
105, 113, 117 (UP)	20 x 24	51	180	159,200	28,800	UP, 1894; Brooks, 1898
201–203, 206–208, 211, 214, 217, 219–221, 223, 224, 227–230, 233–239, 241–244, 247–256, 258, 260, 262, 264, 266, 267, 269, 272, 273, 275, 276, 279, 282–284, 295, 296, 298, 302, 306, 308, 309, 315–317, 319–322, 324–326, 328, 330, 332, 351, 353, 355–358 (UP)	22 x 30	57	200	212,800	43,305	Alco, 1904–08; Baldwin, 1904–07
400, 401, 420–423, 425, 427, 428, 430, 432–434, 437, 438, 440–442, 445, 446, 448, 449, 451, 456, 459, 460, 463, 465, 469, 470, 472, 475–477 (UP)	21 x 30	57	200	187,900	39,458	Baldwin, 1900–01
402, 403, 407, 410, 411, 414, 415, 417–419 (UP)	21 x 30	57	200	187,350	39,458	Baldwin, 1900
478–481, 485, 486, 489–495, 497, 498 (UP)	21 x 30	57	200	195,270	39,458	Baldwin, 1901–03
512, 513, 518, 523, 524 (OSL)	21 x 30	55	190	191,200	38,848	Baldwin, 1901
525, 527, 532–535, 539 (OSL)	21½x30	57	190	197,300	39,290	Baldwin, 1903
526, 528–531, 537, 538 (OSL)	21½x30	57	200	197,300	41,360	Baldwin, 1903
560–563, 565–570, 573, 576, 577, 579–583, 585, 587, 590–596, 598–600, 602–605, 607, 608, 610–614, 616–622 (OSL)	22 x 30	57	200	212,800	43,305	Alco, 1908; Baldwin, 1904–07
588 (OSL)	22 x 30	57	190	212,800	41,140	Baldwin, 1906
705 (OWR&N)	20 x 26	51	185	155,000	32,066	Alco, 1909
715, 718 (OWR&N)	20½x30	57	200	190,200	37,600	Baldwin, 1901
719, 721 (OWR&N)	20½x30	57	200	192,760	37,600	Baldwin, 1903
730, 732, 733, 735–737, 739–745, 748–753, 756–758, 760, 762–766, 768 (OWR&N)	22 x 30	57	200	213,350	43,305	Baldwin, 1907
731, 738, 747, 759, 761 (OWR&N)	22 x 30	57	200	209,900	43,305	Baldwin, 1905–07
6001–6003, 6007, 6008 (LA&SL)	21 x 30	57	200	196,400	39,458	Baldwin, 1904
6010, 6012, 6018, 6022, 6023, 6028–6031, 6033, 6035, 6039, 6041, 6043, 6045, 6049–6051, 6053, 6054, 6057, 6059, 6061, 6067, 6070, 6072, 6075, 6079, 6080, 6085 (LA&SL)	22 x 30	57	200	220,500	43,305	Alco, 1908; Baldwin, 1905–07
2-8-2 (Mikado) Type						
1900–1912, 1914, 1916, 1918, 1920–1927, 1929, 1931, 1938, 1947–1949 (UP)	23¾x30	57	190	265,600	47,945	Baldwin, 1911–12
1913, 1915, 1917, 1919, 1928, 1930, 1932–1937, 1939–1946 (UP)	23¾x30	57	190	270,400	47,945	Baldwin, 1911–12
2000, 2002, 2003, 2005–2007, 2012, 2014, 2016, 2018, 2019, 2021, 2025, 2030–2034 (OSL)	23¾x30	57	190	270,400	47,945	Baldwin, 1911–12
2001, 2004, 2008–2011, 2013, 2015, 2017, 2020, 2022–2024, 2026–2029 (OSL)	23¾x30	57	190	267,850	47,945	Baldwin, 1911–12

(Cont.)

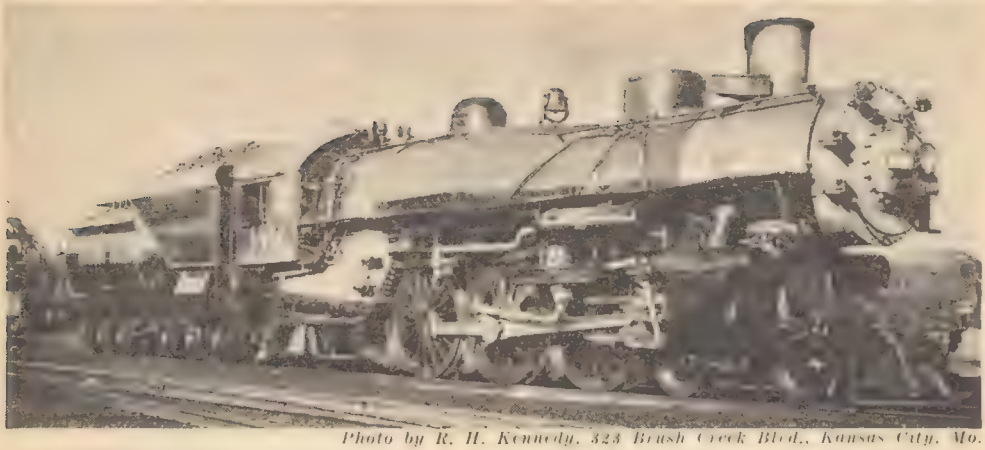


Photo by R. H. Kennedy, 323 Brush Creek Blvd., Kansas City, Mo.

OVERTHRUST of smokebox front gives impatient air to Salina-bound Pacific 2910

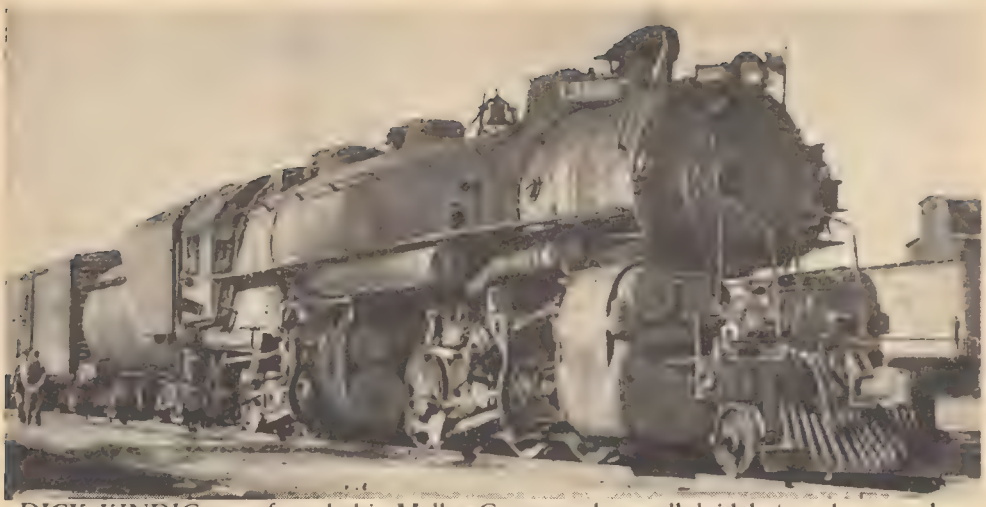
Photo by R. H. Kindig

READY to run Extra. The three-cylindered 9004 locks knuckles with a long freight at Laramie, Wyo.

Photo courtesy Union Pacific

NEWEST-but-one of the system's super Northern type engines, the 843 represents the last word in conventional dual-service power. She is capable of hundred-mile-per-hour speeds with sixteen standard Pullmans

Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
2-8-2 Mikado Type, Continued						
2100, 2101, 2103–2106, 2108, 2109, 2111–2114, 2116–2124, 2128, 2129, 2132–2136, 2138–2140, 2142, 2143, 2145, 2147–2157, 2161–2165 (OWR&N)	23¾x30	57	200	267,850	50,468	Baldwin, 1910–13[1]
2107, 2110, 2115, 2125–2127, 2130, 2131, 2137, 2141, 2144, 2146, 2158, 2160 (OWR&N)	23¾x30	57	200	270,350	50,468	Baldwin, 1910–13
2166–2171 (OWR&N)	26 x 28	63	210	273,000	53,628	Baldwin, 1918
2200, 2202, 2212, 2213, 2216, 2221, 2223, 2226, 2229, 2231, 2232, 2234–2239, 2242, 2243, 2245, 2247, 2249–2251, 2256, 2257, 2259, 2262, 2263, 2267, 2269–2272, 2274, 2276, 2279 (UP)	26 x 28	63	210	288,700	53,628	Alco, 1912; Baldwin, 1911–17; Lima, 1914
2201, 2203–2211, 2219, 2222, 2227, 2230, 2240, 2244, 2248, 2252, 2253, 2255, 2260, 2261, 2264, 2273 (UP)	26 x 28	63	210	286,120	53,628	Alco, 1912; Baldwin, 1911–17; Lima, 1912
2280, 2290, 2293, 2313, 2319 (UP)	26 x 28	63	210	288,750	53,628	Baldwin, 1918
2281–2289, 2291, 2292, 2294, 2311, 2312, 2314–2318, 2320 (UP)	26 x 28	63	210	291,400	53,628	Baldwin, 1918
2295–2310 (UP)	26 x 28	63	210	300,000	53,628	Alco, 1920–21
2480–2499 (UP)	26 x 28	63	200	290,800	54,700	Alco, 1918
2504, 2508, 2510, 2511, 2515, 2517, 2520, 2521, 2525, 2528–2530 (OSL)	26 x 28	63	210	286,120	53,628	Alco, 1912; Baldwin, 1911–17
2506, 2507, 2512, 2513, 2516, 2518, 2519, 2522, 2524, 2526, 2527, 2531, 2532 (OSL)	26 x 28	63	210	288,700	53,628	Alco, 1912; Baldwin, 1911–17; Lima, 1914
2535, 2537, 2539–2554 (OSL)	26 x 28	63	200	292,000	54,700	Alco, 1918–19
2555–2564 (OSL)	26 x 28	63	210	300,000	53,628	Alco, 1920–21
2700, 2702–2707, 2726–2732 (LA&SL)	26 x 28	63	210	285,100	53,628	Alco, 1914; Baldwin, 1913
2708 (LA&SL)	26 x 28	63	210	282,500	53,628	Baldwin, 1914
2709–2715, 2733–2735 (LA&SL)	26 x 28	63	210	286,120	53,628	Lima, 1917
2-10-2 (Santa Fe) Type						
5000–5006, 5009 (UP)	29½x30	63	200	361,500	70,450	Baldwin, 1917
5008, 5014 (UP) 5525–5529 (LA&SL)	29½x30	63	200	375,100	70,450	Baldwin, 1917–19
5015–5022, 5025, 5027–5034, 5036, 5038, 5039 (UP)	29½x30	63	200	382,100	70,450	Baldwin, 1920
5023, 5024, 5026, 5035, 5037 (UP)	29½x30	63	200	377,500	70,450	Baldwin, 1920
5040–5048, 5306–5313 (UP)	29½x30	63	200	397,100	70,450	Baldwin, 1923
5049–5052, 5056, 5058–5068, 5078 (UP)	29½x30	63	200	397,100	70,450	Baldwin, 1923
5053–5055, 5057, 5069, 5071–5077, 5079–5082, 5084–5089 (UP)	29½x30	63	200	397,400	70,450	Baldwin, 1923
5070, 5083, 5500–5514 (UP)	29½x30	63	200	387,100	70,450	Baldwin, 1923
5300–5305 (OSL)	29½x30	63	200	382,100	70,450	Baldwin, 1918
5315–5317 (OSL) 5400, 5402–5408, 5410, 5414 (OWR&N)	29½x30	63	200	384,800	70,450	Baldwin, 1923
5318 (OSL)	29½x30	63	200	391,000	70,450	Baldwin, 1923
5401 (OWR&N)	29½x30	63	200	379,300	70,450	Baldwin, 1923
5515–5524 (UP)	29½x30	63	200	383,000	70,450	Baldwin, 1924
4-6-0 (Ten Wheel) Type						
1242, 1243 (UP)	19 x 24	57	165	148,500	21,318	Cooke, 1890
1573, 1575, 1577–1580 (OSL)	22 x 28	69	190	206,000	31,719	Baldwin, 1909–11
1585 (OSL)	17 x 24	61	180	104,000	17,460	Baldwin, 1917
1586 (OSL)	18 x 26	57	180	122,000	22,680	Baldwin, 1910
1730 (OWR&N)	22 x 26	64	200	190,150	33,426	Baldwin, 1901
1740, 1741 (OWR&N)	20 x 26	57	190	154,400	29,466	Cooke, 1897
1745, 1747, 1748, 1751, 1754 (OWR&N)	22 x 28	69	200	206,000	33,390	Baldwin, 1909–11
1755, 1757, 1759 (OWR&N)	22 x 28	63	200	208,000	36,570	Alco, 1908
4-6-2 (Pacific) Type						
2824, 2835, 2844 (UP)	22 x 28	77	200	230,500	29,920	Baldwin, 1906–09
2851–2853, 2856 (UP)	22 x 28	77	200	238,825	29,920	Baldwin, 1911
2860–2866, 2868–2880, 2882–2884, 2888–2892, 2895–2899, 2910, 2911 (UP)	25 x 28	77	220	293,100	42,500	Alco, 1912–14; Lima, 1914
2867 (UP) 3114, 3122 (OSL)	25 x 28	77	220	292,900	42,500	Alco, 1912
2881, 2885–2887, 2893, 2894 (UP)	25 x 28	77	220	278,000	42,500	Lima, 1914
2900–2905, 2907–2909 (UP)	25 x 28	77	220	293,100	42,500	Baldwin, 1920
2906 (UP)	25 x 28	77	220	298,400	42,500	Baldwin, 1920
3100, 3104, 3105, 3109–3111, 3113 (OSL)	22 x 28	77	200	230,500	29,920	Baldwin, 1906–11
3115–3121, 3123–3127, 3129, 3131 (OSL)	25 x 28	77	220	293,100	42,500	Alco, 1912–13; Lima, 1914
3128, 3132, 3133 (OSL)	25 x 28	77	220	278,000	42,500	Alco, 1913; Lima, 1914
3134–3138 (OSL)	25 x 28	69	200	272,150	43,120	Baldwin, 1919
3160 (LA&SL)	22 x 28	77	200	231,500	29,920	Baldwin, 1904
3176–3181 (LA&SL)	25 x 28	77	220	275,720	42,500	Alco, 1912
3202, 3203 (OWR&N)	22 x 28	77	200	241,180	29,920	Baldwin, 1905
3204, 3205, 3208 (OWR&N)	22 x 28	77	200	235,940	29,920	Alco, 1904; Baldwin, 1906
3206 (OWR&N)	22 x 28	77	200	220,300	29,920	Alco, 1904
3212, 3215, 3217 (OWR&N)	22 x 28	77	200	235,940	29,920	Baldwin, 1911
3218–3225 (OWR&N)	25 x 28	77	220	278,000	42,500	Alco, 1913; Baldwin, 1911
3226, 3227 (OWR&N)	25 x 28	77	220	270,800	42,500	Baldwin, 1919



DICK KINDIG transferred this Maller Compound to celluloid before her number was struck from the UP roster

Photo by F. O. Kelley, 1217 Huntoon St., Topeka, Kansas

ORIGINATOR of the 4-6-6-4 type, UP has introduced two other wheel arrangements. Can you name them?

FIRST OCCASION on which CNW-UP-operated ***City of Los Angeles, City of Portland*** and ***City of Denver*** left Chicago on the same day. Unusual February 27th get-together resulted from short-month adjustment of the ***City of Portland's*** schedule. All three trains are now on a daily basis

Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
4-8-2 (Mountain) Type						
7000, 7001, 7003–7009, 7020, 7022, 7025–7039 (UP)	29 x 28	73	200	378,380	54,838	Alco, 1922–23
7002 (UP)	29 x 28	73	200	381,010	54,838	Alco, 1922
7010–7019, 7021, 7023, 7024, (UP) 7850–7864 (LA&SL) 7865–7869 (UP)	29 x 28	73	200	366,360	54,838	Alco, 1922–23
4-8-4 (Northern) Type						
800–819 (UP)	24½x32	77	300	460,640	63,500	Alco, 1937
820–834 (UP)	25 x 32	80	300	478,640	63,800	Alco, 1939
835–844 (UP)	25 x 32	80	300	486,340	63,800	Alco, 1944
4-10-2 (Southern Pacific) Type						
5090–5099 (LA&SL)	27 x 32	63	230	405,700	72,400	Alco, 1925–26
4-12-2 (Union Pacific) Type						
9000–9014 (UP)	27 x 31 (inside); 27 x 32 (outside)	67	220	495,000	96,650	Alco, 1926
9015–9029, 9055–9062 (UP)	27 x 31 (inside); 27 x 32 (outside)	67	220	496,500	96,650	Alco, 1926
9030–9054 (UP)	27 x 31 (inside); 27 x 32 (outside)	67	220	496,500	96,650	Alco, 1929
9078–9087 (UP), 9500–9514 (OSL)	27 x 31 (inside); 27 x 32 (outside)	67	220	515,000	96,650	Alco, 1930
2-8-8-0 (Simple Articulated) Type						
3500, 3501, 3504–3509, 3512–3515, 3517–3539, 3541–3564 (UP) 3565, 3566 (OSL) 3567–3569 (OWR&N)	23 x 30	59	218	501,480	99,840	Alco, 1918–24
3502, 3503, 3510, 3511, 3516, 3540 (UP)	23 x 30	59	218	505,480	99,840	Alco, 1918–23
2-8-8-2 (Simple Articulated) Type						
3570–3588 (UP)	23 x 32	57	225	567,500	113,595	Alco, 1924
3589–3592 (UP)	23 x 32	57	225	572,330	113,595	Baldwin, 1926
3593–3599 (UP)	23 x 32	57	225	584,600	113,595	Baldwin, 1926
2-8-8-2 (Mallet Compound) Type						
3670–3674 (UP)	25 & 39 x 32	57	270	539,000	114,154	Alco, 1919
4-6-6-4 (Challenger) Type						
3800, 3802–3809 (UP)	22 x 32	69	255	572,030	97,400	Alco, 1936
3810–3814 (UP)	22 x 32	69	255	569,820	97,400	Alco, 1936
3815–3821, 3823–3827, 3829–3839 (UP)	22 x 32	69	255	584,950	97,400	Alco, 1937
3801, 3822, 3828 (UP)	22 x 32	69	255	594,610	97,400	Alco, 1937
4-6-6-4 (Challenger) Type						
3930–3949 (UP)	21 x 32	69	280	634,500	97,350	Alco, 1944
3950–3969 (UP)	21 x 32	69	280	627,000	97,350	Alco, 1942
3975–3980 (UP)	21 x 32	69	280	627,900	97,350	Alco, 1943
3981–3999 (UP)	21 x 32	69	280	633,500	97,350	Alco, 1943
4-8-8-4 (Simple Articulated) Type						
4000–4019 (UP)	23¾x32	68	300	762,000	135,375	Alco, 1941
4020–4024 (UP)	23¾x32	68	300	772,250	135,375	Alco, 1944

Diesel Locomotives

Including jointly owned units with Chicago & North Western (C&NW) and Southern Pacific (SP)

Numbers		Horsepower	Drivers	Engine Weight	Tractive Effort	Builder and Date
Road Locomotives						
M–10002		2100	36	370,060	47,000	Pullman, 1936
CD–05 A,B,C & CD–06 A,B,C	(JT. UP, C&NW)	3600	36	644,260	87,600	Pullman, 1936
CD–07 A,B,C		3600	36	644,480	87,600	Pullman, 1936
901–A, 902–B, 903–B	(JT. UP, C&NW, SP)	5400	36	944,140	134,400	Electro-Motive, 1937
904–A, 905–B, 906–B	(JT. UP, C&NW, SP)	6000	36	944,460	156,000	Electro-Motive, 1941
907–A, 908–B, 909–B	(JT. UP, C&NW, SP)	6000	36	960,810	156,000	Electro-Motive, 1946
921–A, 922–B, 923–B	(JT. UP, C&NW)	5400	36	926,180	134,400	Electro-Motive, 1937
924–A, 925–B, 926–B	(JT. UP, C&NW)	6000	36	947,450	156,000	Electro-Motive, 1941
927–A, 928–B, 929–B	(JT. UP, C&NW)	6000	36	960,130	156,000	Electro-Motive, 1946
930–A, 931–A	(JT. UP, C&NW)	4000	36	646,200	104,000	Electro-Motive, 1946
951–A, 952–B		4000	36	613,500	104,000	Electro-Motive, 1939
953–A, 961–B, 954–A		6000	36	946,520	156,000	Electro-Motive, 1940, 1946
955–A, 962–B, 956–A		6000	36	947,800	156,000	Electro-Motive, 1940, 1946
957–A, 963–B, 958–B		6000	36	948,440	156,000	Electro-Motive, 1940, 1946
959–A, 960–A		4000	36	648,300	104,000	Electro-Motive, 1946
981–A, 983–B, 982–A		6000	36	1,021,900	141,000	Fairbanks-Morse, 1946
Switch Locomotives						
DS–1000 to DS–1050		1000	40	247,700	29,800	Electro-Motive, 1939–1946
DS–1100 to DS–1153		1000	40	230,000	28,000	American, 1943–1946
DS–1200 to DS–1205		1000	40	247,000	28,300	Baldwin, 1943–1944
DS–1300		1000	40	244,000	29,600	Fairbanks-Morse, 1945

Photo by B. F. Cutler, Rail Photo Service, 93 Mass. Ave., Boston 15, Mass.

EXAMPLE of one of most powerful of simple articulated engine types is C&O's Number 1603—a 2-6-6-6. These locomotives are used mainly between Clifton Forge and Russell, Ky.

On the Spot

Railfaring Men Sit With the Editorial Crew to Swap Experiences, Offer Suggestions and Settle Arguments

HOW many railroads have *you* ridden as a passenger? Austin F. Cross of the Canadian House of Commons press gallery at Ottawa says that his 119th on this continent was the Colorado & Southern, his 118th the Midland Terminal, his 117th the St. Johnsbury & Lake Champlain, his 116th the Ann Arbor.

* * *

NOT UNTIL NOW has sufficient data been available for anyone to gage the relative importance of the largest passenger and freight terminals in the country, although fragmentary information on the subject has been published here and there. However, we now have the facts. A preliminary survey has just been made by the Association of American Railroads on 34 big passenger stations and 38 outstanding freight terminals. These figures will settle many an argument in crew room, switch shanty, or Pullman lounge. In some cases they will enhance local pride and in others they will bring a bit of disappointment. Certain it is that these comparisons are packed with surprises. We regret that space does not permit us to print all the tabulations.

In the passenger category, figures show the number of railroads using the various great depots, the number of tracks and track levels, the floor space of the station itself, the area occupied by terminal tracks and auxiliary facilities, the amount of storage space for passenger-train cars, including cleaning tracks, the average daily number of through and suburban trains incoming and outgoing, and the passengers per day using the station—16 entries altogether for each passenger depot, as well as explanatory remarks.

Beginning with the number of roads using the terminal, we find St. Louis Union Station heading the list, with 17, not counting the "cab runs," or trains operated by the Terminal RR. Association of St. Louis for taking its own employes over the yards, as mentioned in Freeman H. Hubbard's *Union Station* in last February's issue.

The St. Louis station is followed by Kansas City Union Terminal, operated by a dozen railroads; St. Paul Union Depot and Dallas Union Terminal, 8 roads each; Cincinnati Union Terminal and Chicago's Dearborn Station, 7 each; Indianapolis Union Terminal, Denver's Rock Island Terminal, Omaha Union Station and Minneapolis Station, 6 each; El Paso Terminal, Washington Union Station, Houston Union Depot and Pacific Terminal at Portland, Ore., 5 each; Cleveland Union Terminal, Chicago Union Station and New York's Penn Station, 4 each; Chicago Central Station, Ogden Union Station, Chicago LaSalle Street Station and Los Angeles Union Terminal, 3 each.

Six other important stations in the AAR list are used by two carriers, the rest by only one, while down in New Orleans construction work is under way on a new union passenger terminal to accommodate seven trunk lines that serve the picturesque old Louisiana city.

As for the number of terminal tracks, Grand Central of New York easily heads the procession with 156, including 50 platform tracks. Trailing a poor second is St. Louis, with 42. Third is Portland, Oregon's Pacific Terminal, with 36, of which 11 tracks are in the station yard, 25 in the coach yard. Fourth is Los Angele's Union Terminal, whose 33 tracks include those for handling mail, express, etc. Fifth is Seattle's King Street Station, with 13 out of a total of 31 located in the depot, while Washington Union Station runs sixth.

Among the also-rans in this column are Boston South Station, 26; Chicago Union Station, 24, and K.C. Union Terminal,

also 24, including six to roadways in Broadway yard; Boston North Station and St. Paul Union Depot, 23 apiece; New York's Penn Station and Ogden Union Station, 21 each; Pittsburgh PRR Station, Cincinnati Union Terminal, Chicago C&NW Station and Omaha Union Station, 20; Hoboken's Lackawanna Station, 19, and the following with 17 each: San Francisco's SP Station, 3rd and Townsend streets; Denver's Rock Island Terminal and Houston's Union Depot.

Only four of the foremost terminals surveyed by the AAR have two track levels: Grand Central Terminal, the Washington setup, Omaha Union Station, and Philadelphia's PRR 30th Street Station. The last-named now operates only four tracks but plans ten additional.

With regard to station floor space, Cincinnati Union Terminal is away out in front with 801,260 square feet, followed by Cleveland Union Station, 646,100; New York's Penn Station, 439,246; Boston South, 416,000 plus the concourse; St. Paul Union Depot, 388,406; Grand Central, 348,475; Indianapolis Union Terminal, 307,898; Chicago C&NW Station, 275,000; Washington, 225,000; Denver's Rock Island Terminal, 213,586; and six others, each having more than 100,000 square feet.

Coming now to floor space in buildings other than the actual railroad station, we find St. Louis Union leading with 587,704 square feet, followed by Cincinnati Union, 530,350; Ogden Union, 334,121; Los Angeles Union, 327,500, and nine others with more than 100,000 square feet apiece. One depot in the AAR survey, the Southern Railway Station at New Orleans, has no other terminal buildings.

Next on the list comes the area occupied by station track and auxiliary features. Here we discover New York's Penn Station ranking number one, with 254 acres. Cincinnati Union, 131 acres, runs second. Pittsburgh PRR Station is third, 110

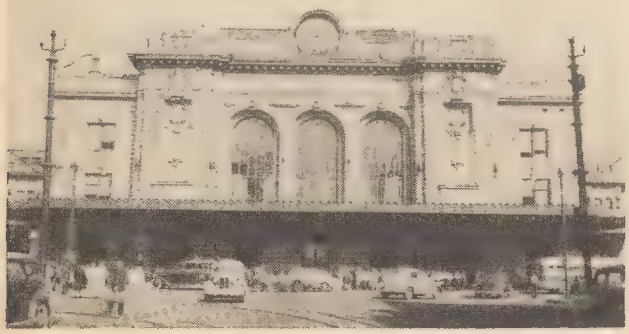


Photo by Frederick M. Weiss, 32 S. Munn Ave., East Orange, N. J.

VARIED in architecture as in number of trains operating in and out of them daily are Kansas City, Mo. *(above)*, and Denver, Colo., Union Stations. Massive Kansas City Union operates a total of 192 trains per day. Graceful Denver Union is distinct from Rock Island Terminal mentioned in text

acres, and the St. Louis "medieval gateway" is fourth, 97.53 acres. Thirteen others have in excess of 30 acres devoted to station track and auxiliary features.

As for the storage of passenger-train cars, including cleaning tracks, St. Louis has more than twice as much capacity as any other terminal in America. It can accommodate 1702 such cars at one time, and no wonder, considering the large number of railroads it serves. Checking down the list, we note that Pittsburgh PRR Station stands in second place, 794 cars, followed by the Portland, Oregon, Pacific Terminal, 762; Cincinnati Union, 736; Washington, 627; Boston North, 551; Grand Central, 537; four others with a capacity of at least 400 passenger cars apiece, twelve with a capacity of 200 or more, and the remainder accommodating less than 200 cars apiece.

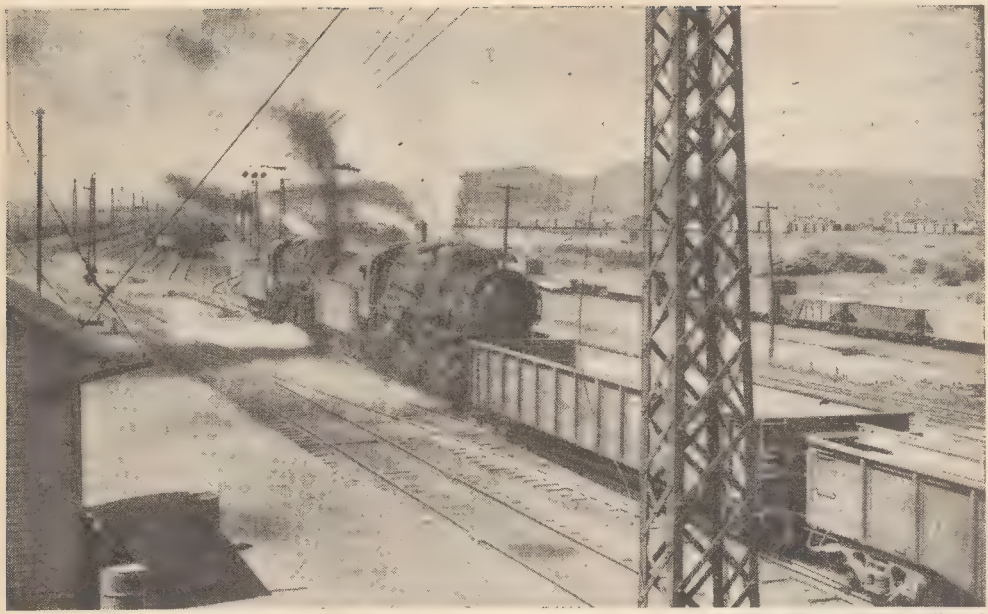
Four of our great passenger terminals operate an average of 100 or more through trains daily in each direction. This is a magnificent record. The four are New York's Penn station, 177 incoming through trains, 168 outgoing; Washington Union, 120 in, 114 out; St. Louis Union, 109 in, 106 out, and Cincinnati Union, 100 in, 100 out. Five other terminals schedule an average of more than 70 through trains per day in each direction: Kansas City Union, 96 in, 96 out; Pittsburgh PRR Station, 82 in, 83 out; St. Paul Union, 80 in, 80 out; Indianapolis Union, 75 in, 77 out, and Grand Central, 80 in each direction.

Topping the roll of terminals with suburban service is New York's busy Penn Station, which keeps its gleaming tracks hot with a daily average of 300 suburban trains incoming and the same number outgoing, most of these being on the Long Island Rail Road. This is followed by Chicago Central Station, 236 suburban trains in, 235 out; Philadelphia's PRR 30th Street Station, 222 in, 227 out; Grand Central, 162 in, 165 out; Philadelphia's Reading Terminal, 147 in, 151 out; Hoboken's Lackawanna Station, 130 in, 127 out; Boston North, 117 in, 121 out, and Cleveland Union, 109 in each direction.

New York's famous Penn Station also claims the largest number of through passengers using the facilities on an average day, the amazingly high figure of 94,874 incoming and the same number outgoing. Washington Union runs second, with 130,000 altogether. Others high on the list are Grand Central, 37,770 in and 41,900

Photo by C. T. Steeb, 9 N. 30th St., Billings, Montana

SIDE BY SIDE are Seattle, Wash., depots. At left is Union Station, used by UP and CMStP&P; at right, King Street Station shared by NP and Great Northern



Courtesy New Haven Railroad

AMONG top five freight yards is New Haven's Cedar Hill at New Haven, Conn., with 154 miles of track and 15,000-car capacity scattered over 880 acres

out (a difference of 4130); Cincinnati Union, 25,000 in each direction; K.C. Union, 24,000 in each direction; Boston South, 15,000 in each direction; L.A. Union, 10,000 each way, and St. Paul Union, 10,000 each way during the summer, but only about 7,000 in the wintertime.

St. Louis Union reports an average of 54,700 passengers a day using its facilities. This figure is not broken down into incoming or outgoing, long-distance or suburban. It does not include the many additional thousands of persons who visit the great station merely to greet incoming passengers or bid farewell to departing passengers, or who enter the place just to patronize any of the Fred Harvey concessions or for any other reason.

As for the average daily number of suburban passengers using the various big stations, New York's Penn Station again climbs out on top with 66,651 commuters in each direction. Grand Central, 51,725 in, 50,000 out; Boston South, 41,000 each way; Chicago C&NW Station, 33,525 each way; Boston North, 31,405 in, 33,204 out; and Hoboken's Lackawanna Station, with 32,817 in, 31,527 out daily.

The AAR survey of U.S. freight terminals gives St. Louis the championship in number of roads using its freight yards, 25; in number of tracks in its freight yards, 616, and in miles of track within its freight-yard limits, 188.5. However, the Pennsy's freight setup at Enola (Harrisburg) Pa., as described and pictured in Henry B. Comstock's *Redball Terminal* (Nov. '41 *Railroad Magazine*), ranks first on several important points: average number of cars handled daily, 7202 incoming, 7411 outgoing; average number of trains operated through the yards daily, 97 in, 107 out; and all-time record for cars handled in one day, 20,660. No other yard in the world, so far as we can ascertain, has ever matched that last figure.

Furthermore, the C&NW Proviso freight terminal at Chicago leads the nation in freight-yard area, 1250 acres, and freight-car capacity, 26,000; and the largest number of average daily switching movements on the AAR list, 5500, is recorded for the Chesapeake & Ohio's Russell freight yards at Ashland, Ky. Some of the biggest yards, however, did not submit

figures involving switching movements.

* * *

DELAWARE & HUDSON feature by Bill Rohde in our April issue drew the following comments from Arthur C. Mack, 20 West Plaza, Ridgewood, N. J.: "I am interested in one item not mentioned in Rohde's excellent article: during World War II a modern railroad was built from the D&H terminus at North Creek up through the Adirondacks to a rich iron ore deposit. Will some reader tell me if the D&H or the Government built this line?

"I also wonder if Rohde saw the movie version of Edna Ferber's popular novel, *Saratoga Trunk,* depicting a turbulent incident in D&H history. While I have always admired the D&H, it is sad to see the abandonment of passenger traffic on the Cooperstown branch with its beautiful stone station in the historic town of that name and the Schoharie Valley and Cherry Valley branches wiped off the *Official Guide* timecards. How many old-timers remember the D&H coaches with stained wooden sides and the old diamond-stack engines whose tenders bore the inscription *Delaware & Hudson Canal Co.*?"

* * *

SUBWAY SLUGS. Although the New York subway system offers a pretty good ride for a nickel, too many passengers continue to use slugs or foreign coins instead of paying their fare. Frank Quin, 8414 88th St., Woodhaven, N. Y., writes:

"In 1939 some 284,000 slugs found in Independent Line turnstiles were taken out to sea and dumped. The following year vigilant inspectors kept the number down to 118,700 (a loss to the taxpayers of $5,935). Since about a million and a half persons a day passed through the turnstiles of the Independent Division, that loss was relatively small.

"Let's skip a few years and examine the situation for 1946. Last year 194,517 slugs or foreign coins, including nearly 64,000 Canadian nickels, were dropped into subway slots. Subway employes will tell you that slugs and odd-looking coins are likely to rain into any turnstile. A slugger may drop a phony nickel into the slot, watch it pass the bull's-eye magnifying lens and brag to his friends how he put it over.

"'One day recently,' a subway official explained, 'we got phoney money like this: IRT Division, 224, including 24 on Elevated trains; Ind. Division, 171, and BMT Division, 75. Some guys buy gum, chew it, roll it, and palm it to simulate a

SMOKING at the head-end of green and cream D&H coaches at Oneonta, N. Y., is Pacific 652

Photo from Joseph J. Fischer, Lynbrook, N. Y.

Courtesy Illinois Central Railroad

BROOKS-BUILT 640 had too much spread to take IC's curving trackage south to Memphis, Tennessee

nickel. If the object makes contact, the turnstile opens. We're getting coins from countries as far away as Palestine, Honduras, Belgium, Japan, and Australia. Last year we got 2300 Cuban nickels.' "

* * *

WORLD'S BIGGEST HOG was Illinois Central engine Number 640 at the time she was built in 1899. Too large for the curves and bridges south of Carbondale, Ill., she was used only between Centralia and Carbondale. There, according to Ernest M. Dolan, Centralia correspondent of the *Illinois Central Magazine,* she struggled and wheezed along with some 2500 tons of freight per trip. She was considered too much of a job for one fireman, so an additional tallowpot was put on as a helper.

"As it so happened," Dolan recalls, "it fell to the lot of the company's smallest fireman, Johnny North, who was so small that he was given the appelation 'Little Breeches,' to fire this mammoth engine. Johnny stayed with the 640 for 18 months. He made it his business to see that the water was boiling and the pops sizzling all the time."

According to Robert T. McMillan, one of the veteran engineers who ran the 640 regularly, she could pull only about one-fourth or one-fifth of the tonnage hauled by freight engines today over the same district. McMillan is now living in retirement at Yakima, Wash. Johnny North, now pulling some of the IC streamliners, is as tough as a pine knot although past 65, Dolan adds.

* * *

TOURIST SLEEPING CARS are being eliminated by the Union Pacific, particularly on regular main-line trains, announces President G. F. Ashby, who considers this outgrowth of the old emigrant car as antiquated and outmoded.

"The tourist car has served its purpose and served it well," he says, "but we are replacing it gradually with more modern equipment."

We hope this item will evoke a flood of memories from oldtimers who'll take pen in hand to tell us their impressions and recollections of emigrant cars and tourist sleepers. There must be a lot of good stories centered around this ancient equipment.

* * *

BOB WHITE started something when he asked about cities or towns named for any reason connected with railroading (April *On the Spot*). C. C. Campbell, 207 S. Edison Ave., Tampa, Fla., tells us that two Florida towns, Acline, on the Atlantic Coast Line, and Salvista, on the Seaboard Air Line, plainly show a railroad derivation in the first three letters of each name. And Hugh F. O'Neil, 659 23rd St., Ogden, Utah, comments:

"Utah communities so named include Collinston, which pays tribute to Collins Fullmer, Utah Northern Railroad conductor; Orem, so called for W. C. Orem,

builder of a recently abandoned electric railway that ran through the town, and Gorgoza, named in honor of Rodriquez Velasquez de la Gorgozada, a Spaniard, who is said to have invested almost a million dollars in a narrow-gage road extending between Park City and Salt Lake City. There is a story that John W. Young, a son of Brigham Young, traveled to France to solicit Gorgozada's financial support. The Spaniard was reluctant, but eventually complied when Young described a large city and offered to name it after the capitalist. The 'large city' is today a hamlet, population twenty."

Photo from Leighman Hawkins, 724 Virginia Ave., Roanoke 14, Va.
NOW REPLACED by Diesels, Lancaster & Chester 41 is pictured on wye at end of short run

At least four villages on the Norfolk & Western's Durham Division are named after daughters of the promoters of that line, according to Edward S. Wranek, 517 E. Capitol St., S. E., Washington 3, D. C. "Nathalie and Gladys are the only two I can recall offhand," he writes, "but I am sure oldtimers down that way can supply further details. I understand that the promoter got his start by winning a large pot in a poker game by having a lone Jack—hence the name of another station on that road, Lone Jack, Va."

Mr. Wranek wants to see more articles dealing with various types of railroad cars, telling how they have evolved, and is particularly interested in getting information on the refrigeration system of reefers.

* * *

E. F. Baker

A BOOK by Earle Franklin Baker, "poet laureate of the rails" and occasional contributor to *Railroad Magazine* for the last nine years, has just been published by The Story Book Press, 1435 Second Ave., Dallas 10, Texas. Entitled *Above the Clamor,* with stiff cloth binding, it contains a choice selection of Baker's poems about railroading and other subjects, and sells for $1.75. Baker has appeared in three dozen magazines and newspapers and is heard now and then in radio broadcasts. One of the poems in his new book, *Rural Rainbow,* won first prize in a national poetry contest. For readers who feel, as Baker does, the romance of railroading, who share with him a love of nature and sympathy for people and who welcome homespun philosophy, we are glad to recommend this small book.

Baker was born in a log cabin in Howard County, Ind. At the age of six he lived at Greentown, Ind., about 1½ blocks from the old Clover Leaf tracks. His father worked on the section. When Earle grew old enough, he worked during the summer as water boy for the track gang. A poem of his recalls the eagerness with which they all greeted the money-wagon:

> We fellers used to count th' days,
> Like circus, when we knowed
> Month's end would bring the old pay-car
> A-gleamin' down the road.

"One day," he tells us, "I left the little wooden water barrel in the shade of a boxcar but too close to it. When the local pulled off the siding, smash went the barrel! Yeah, I got a taste of willow switch on the hind quarters for that carelessness, and I never did it again.

"When I was eleven, Dad died. There were seven of us youngsters, and mother remarried two years later. My stepfather was a railroader, too. He ran a steel-laying gang, a bunch so tough that he had to pack a revolver to keep them from killing

one another. For several years I worked in his gang as tool boy and timekeeper. We laid steel on the Clover Leaf from St. Louis almost to Toledo. I saw more than one of his men knife a fellow laborer and swing pick handles from hell to breakfast.

"At length I decide to fly the coop. Catching a ride with a friendly hogger, I worked various jobs in the West: on a Union Pacific rock-train out of Omaha, Neb.; washing dishes for two months in a Harvey House at Las Vegas, Nev.; on the big red electric cars of the Pacific Electric along the Alameda Mole; in the PE shops, washing cars, sanding them, welding them, and getting them ready to roll again; then on the Chicago & North Western in Wisconsin.

"My Uncle Bill Wilson taught me a lot about railroading. I chipped ice from C&NW switches and dug passenger cars out of snow and ice from Monico Jct. to Rhinelander, Wis. There was a roundhouse at Monico when I worked there and lots of iron-ore drags and pulpwood loads from the lumber camps rolled through. One winter day Uncle Bill, walking home from work, found a broken rail just west of the curve on the main line to Rhinelander. A train from Chicago was due. He flagged her down with his red bandana handkerchief and the grateful passengers took up a generous collection for him. When Bill got home that night he dumped all the money in Aunt Rose's lap with the remark, 'Look what Santa Claus left us.' "

Baker jotted down notes of things he saw and heard while he was railroading, and this data later supplied material for his poetry.

"I just boomed around like a long lanky tumbleweed," says Baker, who is six feet one inch tall. "In 1934 I got married and went to work for Continental Steel Corporation. Four years later I was thrilled to get my first check for a poem from good old *Railroad Magazine*. Since then I've sold verse, fiction and articles to a list of publications of one kind or another as long as your arm.

Photo by Ernie Plant

FORMER Oregon Electric, now BCE's 692, shown heading out of Vancouver Yard

"I also write poems that I don't try to sell—for anniversaries of friends and relatives, for local churches, radio programs, etc. I have some song lyrics that I think are good, and would like to make a deal with a composer to write the music. Two of my three children are twins. I collect Indian arrow heads and matchbook covers. My wife's grandfather, Dan Ellers, was a Pennsy hogger running out of Bradford, Ohio, for thirty years."

* * *

JUICEFANS will be interested to learn from Ed Pugsley, motorman on the British Columbia Electric, 4430 Osler St., Vancouver, B. C., Canada, that three brightly-painted freight motors are whipping and snapping strings of boxcars about the Vancouver yards of the Vancouver & Lulu Island and the Southern Railway in the BCE system. This type of motor is new for the men now operating them, for they arrived only recently from the Oregon Electric, across the border.

"Real life-savers these three old chums have proved for the BCE," comments Ed. "Scouts had been scouring North Amer-

ica for new or used equipment, but nothing of suitable power could be found until someone mentioned the trio of old ladies down Oregon way who'd already given a quarter-century of strenuous service. One of them was hauled to Vancouver for trial after the permission of Customs officials had been obtained. The test proved okay, so the other two were taken over also. At the BCE shops painters and mechanics swarmed over the trio, which soon were made ready to serve their Canadian neighbors."

* * *

EX-BOOMER Erwin W. Reiter, 1000 Broad St., Quakertown, Pa., now retired, is unusual in that, although he has held at least two dozen railroad jobs on the old Philadelphia & Reading, the Lehigh Valley, and the Lehigh & New England, all of these jobs have been either in the Keystone State or working out of a Pennsylvania city. Thus Reiter is a one-state boomer. He has worked as telegraph operator, yardmaster, billing clerk, telegraphic leverman, steam and Diesel fireman in road and yard service, electric stationary engineer, hostler, fire puddler, etc.—"hired and fired so often that I could not list all the jobs," he says.

Back in 1917 he was employed as electric stationary engineer in the P&R engine house at South Bethlehem, Pa., on the second shift, three to eleven p.m.

"One night at eleven," he recalls, "knowing that no passenger train would be going in the direction of my home until five the next morning, I waited around until one a.m. and grabbed the first available rattler, which I figured would get me there an hour later. I made myself comfortable on a cushion in the crummy. The engineer knew I was aboard, so I didn't worry about him slowing up to let me off at my home.

"A light rain made the rails slippery. I had nearly fallen into a doze when I heard the brains tell the shack there were twelve cars of high explosives in our train—this being wartime—and the first one was the seventh car from the caboose. Brother, from then on I forgot all about sleep. Chloroform could not have shut my eyes. I'm not a man to be scared easily, but that night I was really worried.

"We highballed out of the yard and rolled along smoothly enough, though the engineer was bullheaded as hell. About five miles out of South Bethlehem we hit a seven-mile upgrade and I realized there was too much tonnage coupled onto our hog. You'd think that yardmasters can't figure when they order trains made up. A canary has more brains than a Y.M. Anyhow, our train stopped at the foot of the hill.

"Bang! Slam! Bing-bang! We edged ahead twenty feet or so and then the drivers started slipping. For those next seven miles we must have rolled back two. Every time I heard an especially loud

Florida News & Photo Service, Inc.

LONGEST stretch of new trackage laid since war's end is Florida East Coast's cut-off between Fort Pierce and Lake Okeechobee district

thump my heart was in my mouth; I could almost feel the hack going up in the air, and I felt like singing *Life's Railway to Heaven*. Well, we finally got over the hump and eased down the grade to my home. The hogger slowed almost to a standstill. I unloaded and sprinted home. We had taken two hours for a sixty-minute run."

* * *

COMMENTING on the Pennsy's recently announced plan for a new fleet of through-service Diesel-electric locomotives, the *Pittsburgh Post* says:

"The coal industry is the Pennsylvania Railroad's biggest customer. In 1945 it accounted for forty-one percent of the road's freight tonnage. In turn, the Pennsy has been one of the largest single customers of coal, using this fuel—either in its natural state or converted as electrical energy—on practically all of the engines pounding its more than 26,000 miles of track." (PRR has less than 10,000 miles of line, but most of this is double-tracked and a considerable portion is four-tracked.)

The *Post* goes on to say that in the Pennsylvania region coal is plentiful and somewhat cheaper than oil.

"But oil has certain advantages which must be chalked on a comparative yardstick. For one thing, its thermal efficiency is greater. This means simply that more heat is transferred into useful work from oil than from coal. Then, too, oil is cleaner and easier to handle; and the plant that burns it is less costly to maintain. . . .

"Of course, as the PRR itself has pointed out, the ordering of twenty-five Diesel road engines should not overshadow the fact that the bulk of the road will remain steam-powered. But we believe it does mean that the Pennsy has found it both prudent and possible to hedge itself against rising coal prices and annual threats of coal shortages which, on two recent occasions, were much more than threats."

The clipping came from George R. Kelly, 639 Parkway, Monessen, Pa., who reports that the trend toward Dieselization is resented by the men mining coal for Pennsy motive power. John P. Busarello, president of District 5, United Mine Workers of America, is quoted as saying:

"Every time a steam engine is taken off the railroads, two miners are out of jobs. Leaders in the smoke-abatement campaigns also are doing everything possible to drive the soft-coal business out of Pennsylvania."

And Michael Honus, secretary-treasurer of UMW District 4, Uniontown, Pa., estimated that the Pennsy's twenty-five new Diesels would cut coal demands by 2750 tons of coal a day.

* * *

SPEED SURVEY. W. Lowell Schiewe, 213 N. Monroe St., Titusville, Pa., alleges that he is deeply grieved over the failure of Donald M. Steffee to mention in his speed survey the *Ramal, Tres Valles a San Cristobal* line of the *FFCC Veracruz al Istmo*.

"It is a grave oversight," Mr. Schiewe writes. "The once-a-day mixed train of this famous branch line makes every bit of ten kilometers (approximately six miles) per hour in the run between Tres Valles and Cosamaloapan. The usual consist is from twelve to twenty assorted freight cars and one antique wooden coach partitioned into about three-quarters-second class and the rest first class, with a little Consolidation-type engine which boasts about 23,000 pounds tractive force.

"According to the timecard, it takes 2½ hours for the forty-kilometer trip, which includes a five-kilometer spur, meaning that they dump most of the freight cars on one leg of the wye and then back down the spur to Tuxtilla. This roundabout route stretches the trip to fifty-kilometers, but what is a timecard among friends? The trip generally consumes from five to eight hours. (An equivalent distance on any sixty-m.p.h. run would take about thirty minutes.) As for service, you could get off at Cosamaloapan and walk the remaining eight kilometers to San Cristobal before the train arrives, as they always spend an hour or so switch-

ing the yards in Cosamaloapan, the said yards consisting of a wye and three sidings. It takes the train about an hour to cover these eight kilometers after they finally complete the switching."

* * *

BRIDGES. Readers with interesting personal recollections of facts about important railroad bridges are urged to write to Associate Editor Gross as soon as possible. Gross particularly needs human interest material on Western bridges and wants especially any facts about the old Idaho & Washington Northern (now CMStP&P) bridges over the Pend Oreille River. Information dealing with early Boston & Albany bridges are also needed. Can any reader identify the iron bridge built for the North Adams branch in 1846?

* * *

ANOTHER call for help comes from Publicity Manager Robert Van Sant of the B&O. A museum is being established at Dayton, Ohio, wherein many interesting items of transportation will be displayed including a Conestoga wagon, a Concord coach, and items relating to the old Miami & Erie Canal, all of a period of about 100 years ago. The museum will be a permanent one and will be open to the public without charge.

One item which is still missing from this collection is a railroad engine and tender of about 1850. Engines used by the CH&D between Cincinnati and Dayton at that time were of the "insider" type, which had the cylinders and wheels mounted inside the side frames. Information as to the whereabouts of such an engine which would be available, or any engine of the 1850 period, will be appreciated. Readers with such information are requested to forward it to *Railroad Magazine,* or to Mr. Van Sant at the Baltimore & Ohio's offices in Baltimore, Md.

* * *

LAST STOP is the Reader's Choice Coupon *(page 145), which guides* your editorial crew in selecting material for future issues of *Railroad Magazine.*

Some readers use the coupon. Other prefer not to clip the magazine; they send home-made coupons, postcards or letters. Regardless of how votes are written, all count the same. Results of balloting on the April issue show these titles listed in order of popularity:

1. Lake Superior to Puget Sound, *E. S. Dellinger*
2. Last of the Two-Footers, *Robert E. Murray*
3. On the Spot
4. True Tales of the Rails
5. Electric Lines
6. Light of the Lantern
7. Test Run, *R. V. Nixon*
8. Locomotive of the Month
9. The Making of a Hand, *Alvin N. Scism*
10. Along the Iron Pike, *Joseph Easley*

Most poular photos: pages 124, 54-55, 74-75, 73 and 81.

FOX tender trucks were feature of Boston & Maine's old six-wheeled switcher 280

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BIGGER AND BETTER

Photo from David Perry, 520½ Donnolly St., Charleston 1, W. Va.

DIESEL motor coach with trailer on holidays operates out of Charleston, W. Va., on New York Central branch, serves miners, school children and hill folk in two counties

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RAILROAD POST OFFICE CLERK: *Trials of a Sub,* Apr. 67
RAILS: Mar. 76; Nov. 118*, 119*
READING: Jan. 18*; *The Crusader,* May 28* through 36*; July 31*; Aug. 19*; Sept. 130*, 131*
RECORDS: *On the High Iron,* May 131; July 126
REFRIGERATION: Apr. 79; Aug. 121; Oct. 46*
RICHMOND, FREDERICKSBURG & POTOMAC: May 93; July 71
ROGERS, THOMAS: Feb. 17*
ROLLER BEARINGS: *Wheels Within Wheels,* Mar. 125*
ROSTERS, MOTIVE POWER: *Quebec Central,* Jan. 115*; *Wabash,* Feb. 70*; *California Western,* Mar. 131*; *Kansas City, Mexico & Orient,* Apr. 117*; *Index of Past Rosters,* June 75; *New York Central,* May 81*, June 113*, July 84*, Aug. 128*; *Atlanta,*

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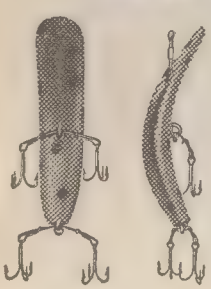

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Birmingham & Coast, Sept. 68*; *White Pass & Yukon*, Oct. 54*; *Norfolk Southern*, Nov. 77*; *Columbus & Greenville*, Dec. 68*
RULES: July 18

SACRAMENTO NORTHERN: Mar. 122; July 30; Nov. 69, 128; Dec. 131, *Last Days of SN Passenger Service*, Dec. 132*, 133*, 134*, 135*
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ST. LAWRENCE & ADIRONDACK: Nov. 73
ST. LOUIS & SAN FRANCISCO: *(See Frisco)*
ST. PETERSBURG MUNICIPAL: Jan. 130*
SAN BERNARDINO, ARROWHEAD & WESTERN: Apr. 60
SANDWICH, WINDSOR & AMHERSTBURG: Mar. 23*
SCHOHARIE VALLEY: Feb. 122
SANTA FE: Jan. 22*, 23*; May 94; July 71; Aug. 60; Oct. 65*; Nov. 69, 122; Dec. 61*.
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SOUTH PARK: *(See Denver, South Park & Pacific)*
SOUTH PERSIAN STATE RAILWAYS: Dec. 138*
SOUTH SIDE RAPID TRANSIT: Mar. 24*
SOUTHERN NEW JERSEY: Mar. 121, 122*
SOUTHERN: Feb. 129; Mar. 76, 78*, 117; Apr. 121*; May 139*; Aug. 137*; Sept. 65, 68
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SPEED: *The Mile-a-Minuters*, Jan. 6, *Tabulation of Mile-a-Minute Runs*, Jan. 13; *The Congressional Limited*, Feb. 78*; *The Champion*, Mar. 91*; *The Crusader*, May 38*, 95, *On the High Iron*, May 131; June 130; Aug. 120; *Burlington-Rock Island Streamliners*, Dec. 50*
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SPRINGFIELD STREET: Oct. 136
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TACOMA & COLUMBIA RIVER: Oct. 64
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TARENTUM, BRACKENRIDGE & BUTLER: Nov. 129*
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TIMOLEAGUE & COURTMACSHERRY LIGHT RY. (Ire.): Oct. 133*
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TONAWANDA VALLEY & CUBA: Dec. 65
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UNITED STATES ARMY: Sept. 74*, 133*
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VALVE GEAR: *The Story of Valve Gear*, Feb. 6*; Apr. 127; Dec. 58
VIRGINIA BLUE RIDGE: Aug. 134*
VIRGINIA MIDLAND: *The Fat Nancy Disaster*, Jan. 128*; Mar. 119
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VIRGINIAN: July 65
VOCABULARY: *Lingo of the Rails*, Apr. 32; May 91, 122; June 121; Sept. 35, 123; Dec. 125, 126

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WATER TANKS & TOWERS: *A Drink for the Iron Horse*, Mar. 106; *Saved By a Mitten*, Nov. 64*; Oct. 83
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WEST SHORE: *(See NYC)*
WHEELING & LAKE ERIE: Feb. 16*; Aug. 119; Nov. 132*, 133*
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WHISTLE SIGNALS: Apr. 79
WHITE PASS & YUKON: Oct. 54*, 55*, 56*; Dec. 126
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YARDMASTERS: *Pocatello Night Yardmaster*, Dec. 18, 24*
YARDS: *Division Mother*, Aug. 92; *Train Yard*, Oct. 47
YOUNG RAILROADERS: *(See Operators)*
YOSEMITE VALLEY: May 94

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Photo by H. W. Pontin, Rail Photo Service

TANKER TONNAGE at Blacktail, Mont., six miles west of the Great Northern 5213-foot crossing of the Rockies

Railroad Camera Club

ITEMS sent to the *Switch List* and *Model Trading Post* are published free, in good faith, but without guarantee. Write plainly and keep 'em short.

Because of time needed to edit, print and distribute this magazine, all material should reach the Editor eight weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by latest Reader' Choice coupon (clipped from page 145 or home-made).

Due to scarcity of space, we prefer that no reader be listed here oftener than once in there months.

(R) indicates desire to buy, swap or sell back issues of *Railroad Magazine* or its predecessors, *Railroad Man's* or *Railroad Stories. (Specify condition of each copy.)*

(*) indicates juicefan appeal.

Switch List

GEORGE ABERE, Jr., (R), 85-02 Jamaica Ave., Woodhaven 21, New York City, N. Y., offers $1 for *Railroad Magazine*, Jan. '42, good cond.

K. W. ACKERLY (R), 147 Algonquin Rr., Hampton, Va., will sell or exchange *Railroad Magazine*, Mar. '42, Sept. '43; all '45; Mar. '46; Jan.-Oct. '46, for tts.

A. W. ALSTADT, 760 Milwaukee Ave., Chicago 22, Ill., wants p. c. size; L&N, IC 2-8-0 loco. pix; also IC roster, fairly up to date.

FREDERIC W. ARNOLD, 218 W. Monument St., Baltimore 1, Md., has Lake Shore & Michigan Southern Ry. tt. summer 1876.

VERNON L. ARDIFF, Farmville, Va., wants info., car and eng. pix, etc. n. g. Farmville & Powhatan (Tidewater & Western); also cards, envs., postmarked in its Railway P. O., Chester & Farmville. Farmville & Mosley's Jct. R. P. O.

E. W. BARLOW, 1400 Robson St., Vancouver, B. C., Canada, will buy, trade emp. tts., all rds.; has AT&SF emp. tts., all divs. to sell or swap, many others.

WM. L. BAY, 1413 Sopera, Coral Gables, Fla., will buy any size SR&RL pix. or other Maine 2-ft.-gage rds. Send list, price.

LEE BEAUJON, Canaan, Conn., will sell or trade size 127 or 9½x11, B&M, B&O, CP, CNJ, CN, CV, D&H, English, NYC, NH. PRR. Rdg., short line, many others pix.

CLYDE M. BETTS, 1231 W. Main St., Decatur, Ill., buys Wabash railroadiana.

MORTON BLENDER, Sta. WPRO, Providence, R. I., wants CP, CN, GTW eng. pix 5x7, 116, 120, 616 negs.; wants clear front, side, ¾ view; also pix valve gear, pilots, cabs, tenders. Pays cash.

(R) CURTIS J. BOLLES, 401 Const St., Emporia, Kan., will swap *Railroad Magazines*, May '38; Feb., Mar., May '40; Feb., Apr., May '41; Sept. '42; Mar., Sept.-Nov. '44; '45, exc. Jan., Aug.; all '46, good cond.; wants *Railroad*, good cond., prior to '35.

(R) J. E. BRADLEY, Justin, Tex., lost 30 yrs. collec. *Railroad Magazines*, pix, etc., by fire. Wants *Railroad Magazines* having roster Santa Fe locos., May-Aug. '37.

(*) JAMES J. BUCKLEY, 2617 77th Court, Elmwood Pk. 35, Ill., has about 700 size 616 steam negs. mostly Chicago roads shot in '37-'39 for sale or trade for elec. line negs., or what have you. Details on request; state interests.

PHIL B. BUSH, 308 Beall St., Lenoir, N. C., wants pix, negs., info. on N. C. rrs. for history book on same.

(*) WARD J. CALDWELL, 1415 Chippewa St., Flint, Mich., has size 616 set 8 Saipan; RR pix; 9 pix of Okinawa RR. Wil swap even for steam, juice shots in U. S., or 7c ea.

GEORGE CHINDAHL, Box 146, Maitland, Fla., wants pix, letters about circus rr. transportation, older the better.

(*) DAVID H. COPE, 5141 Hazel Ave., Philadelphia 43, Pa., wants stamped env. for list of orig. Kodachrome slides of trolleys in Phila. area.

JAMES CROWTON, 120 So. Stoneman Ave., Alhambra, Calif., offers 1000 colored rr. p. c.'s., all diff., many very old, of U. S., Canadian and foreign trs., stas., bridges, scenery, etc. to highest bidder. Sample, list for 10c and stamp.

(R) LUTHER P. CUMMINGS, 129 Nevin St., Lancaster, Pa., will pay $2 for *Railroad Magazines*, Aug. '45-May '46 incl. mags.

(R) VINCENT J. CURRY, 143 Woodland Ave., New Rochelle, N. Y., offers to top bidder *Railroad Magazines*, Aug.' 45-June '46; approx. 500 rr., misc. p. c's., sta. envs. 20 rr., 20 rr. menus, descriptive material; '37 to '41 rr tts., schedules, over 150 of them; all excell. cond.

(R) GERALD B. DALY, 2100 Rosevilla St., Pasadena 10, Calif., will sell *Railroad Magazine*, '39, exc. Mar., June, Dec.; '40, exc. Jan., Apr., Oct.-Dec.; '41; '42, exc. Jan., Apr., Nov; '43; 20c ea., good cond. *Trains*, '43-'46, $2. per yr., good cond.; won't break set.

(R) JAMES DAVIS, Jr., 802 Parker St., Durham, N. C., will sell *Railroad Magazines*, Nov., Dec. '44; '45; lot for $2. plus post; 20c ea. Good to fair cond.

ALTON D. DUROST, 66 Roberts St., Portland 4, Me., wants English rr. tts.; would swap with someone in England.

LOUIS J. EURINGER, 2034 North 35th St., Milwaukee 8, Wis., has CMStP&P, C&NW pix, size 116, 127; list and sample 10c.

(*) EDWIN FERRALL, 239 E. 54th St., Los Angeles 11, Calif., will trade PE tts. for tts., any other elec. ry.; also sends whole set PE tts, for emp. tts. Western Steam rrs.

KEENETH FISH, 1530 3rd St., Charleston, Ill., wants to buy old tts., pix Diesel powered trains.

N. T. FOSSE, 108 Western Ave., Decorah, Iowa, will sell *Railway Age* Apr. '43 to May '46, perf. cond. for $10.

ROY GRIES, Box 425, Schenectady, N. Y., offers historic booklet, rare old maps of Hudson Valley Ry., Sch'dy, Ry., F. J. & J. RR., published around '10 by the Sch'dy. Ry. *Trolley Trips* in Mohawk & Hudson Valleys; several copies; 25c ea.

(*) S. P. GUTHRIE, Cold Spring, Ky., has many short line pix; list for stamp; also size 620, 616, 122 negs. of Ky., Tenn. rds., Covington & Cinn. streetcars, sell, trade. Wants to buy *Trains*, Jan. '42.

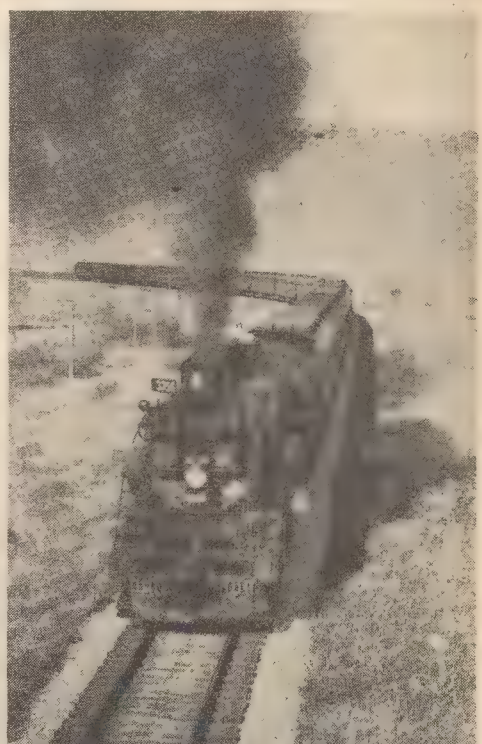
(*) J. C. HAMMOND, 1629 Morton St., Alameda, Calif., sells, trades pix 85 diff. Far west, steam, elec. lines, incl. many addn. lines YV, PC, NCNG, LTR&T, others before '41; size 616, 20 for $1; p. c. size, 15 for $1. List, sample print free. Trades size 616 negs.

TOM HARLEY, 821 Milburn St., Evanston, Ill., will sell 35 mm. Kodachrome Transparencies of NYC, PRR, CMStP&P, C&NW, NYC&StL, AT&SF, CB&Q, B&O, PM, GTW, CNR. EJ&E, C&O, Erie trains, 5 for $1.

GEO. HARRIS, Whitemouth, Manchester, Can., sells size 616 pix CP, CN, small Canadian rys., Canada Elecs., GN, NP, Soo, C&NW, Omaha, Milw. rd., Ill. Cent. loco. Free list, sample; specify rd.

T. C. HAUNTON, Jr., 190 Bath Ave., Long Branch, N. J., will pay $2 for Raritan River tt., any issue.

(*) BASIL M. HEADFORD, 434 Eglinton Ave. E. Toronto, Can., offers Toronto & York Radial Ry. map, size 3'x5', scale 1 in., 1 mile, showing all trackwork,



Rail Photo Service

STEAM POWERED *Empire Builder*, Mikado 3356 in lead, shown battling the Great Divide toward Rising Wolf, Mont. She's now the *Oriental Limited*

Photo by T. B. Keer, Rail Photo Service

TWO-CAR Belfast & Moosehead Lake train with Number 19 doing the honors, wheels onto river bridge into Belfast, Me., connection with the Maine Central

stas., $1.50 p.p.; also 450 Ontario steam, elec. pix.

(*) RUSS HERGESELL, 533 Columbian Ave., Columbus 4, O., wants to buy pix C&LE, Scioto Trac. Co., Ill. Terminal, other operating still lines.

WALTER N. HOFER, 41 Maltby Pl., New Haven, Conn., will trade emp. tts., for CNE, ND&C, or New England, N. Y., Pa., Canadian roads. emp. tts.

ROBT. C. HOFFMAN, Sr., 334 Malloy St., Orlando, Fla., will sell orig hand drawn cartoons done in color, engineer, fireman, conductor, Porter, frt. brakeman, sta. agent, size 8x8, suitable for framing, $1., ea., p. p.

(R) EDW. C. HOYES, 134 East St., Auburn, Calif., will sell *Railroad Magazine,* $2.40 plus post. for compl. yr., good cond., '43; '44; '41, exc. Aug.; '45, exc. Oct.; Jan., Feb., Aug., Dec. '46.

(*) K E. HOUSER, 4628 Winthrop Ave., Indianapolis 5, Ind., will buy any good Ind. RR., C&LE, IC&E pix; also wants to contact Malcolm D. McCarter, Peru, Ind., and Ind. rr. pix collectors in Indianapolis.

DICK HOWELL, 500 S. Grant, Crawfordsville, Ind., wants any *Pocket List of RR. Off.* published before '30; info. Central Ind. RR., Ferdinand & Algers, Winslow & Western. Has tr. ords., sell, trade.

ROBT. HUBBARD, 2654 Merrimac Blvd., Toledo 6, O., will trade W&LE tr. ords, for negs., pix, conductors suit buttons, tr. ords., other rds.

ALFRED JAEGER, 87-25- 252 St., Bellemore, L. I., N. Y., wants wreck pix.

(R*) DONALD B. JOHNS, 1111 Boylston Ave., Seattle 1, Wash., will trade *Railroad Magazine* '36 to '46 compl., yrs. only., for 25 or 30 streetcar, bus tokens, tkts., or will buy tokens 10c. Write first.

(*) PETER R. JOHNSON, 36 Perry St., Gowanda, N. Y., wants rr., trolley pix from mag. or newspaper.

(*) ELLIOTT KAHN, 309 Royal, New Orleans 16, La., sells size p.c. pix over 100 lines, both steam, elec. State wants. Also has few size 116 negs. to trade for others, any line.

FRANCIS KARN, 6713 South 13th St., St. Louis 18, Mo., wants history, story St. Louis, Iron Mountain RR., Missouri River, Bonne Terre RR. or Miss. River, Bonne Terre.

(R) EDW. S. KELLY, 713 Monroe St., N. E., Washington 17, D. C., sell 62 *Railroad Magazines,* '36 to '43, all diff., good cond. $7., plus postage.

(R) JOHN KEIM, 6139 So. Sangamon St., Chicago 21, Ill., wants '46 *Railroad Magazine.*

F. R. KERN, 6029 N. American St., Philadelphia 20, Pa., wants size 616 negs. Rdg.; Lehigh Valley steam locos; will pay cash, trade. Has Mother Hubbards, scrapped classes, both rds. to trade.

STAN KISTLER, Jr., 2106 Gladys St., Pasadena 8, Calif., offers large new list AT&SF pix; also UP, SP, SP; n. g., SD&AE, Trona Ry. Send stamp for compl. new list. Wants to trade size 620, 616, negs. SP, AT&SF with eastern fans.

(*) JOHN KNOWLES, 194 Grenadier Rd., Toronto 3, Can., offers size 116 pix British trams; wants size 116 pix Inst., British, Dutch, Belgian rds.

(R) BASIL W. KOOB, Webster City, Ia., will sell *Railroad Magazines,* '36; '38; '41, $3. per yr.; '37, exc. Aug.; '39, exc. Dec.; July, Oct., Dec. '40; Jan., Feb., July '42; '44; '45; '46; also rr. books. Will trade for rr. or hill-billy records.

(*) TONY KOZLA, 628 N. W. 3rd Ave., Ft. Lauderdale, Fla., trades pix only, steam, FEC, ACL, SAL, wrecks, trolley, Va., Tenn., Ga., La., Fla., Cuba, S. A., Japan; wants steam pix, any rd., no switchers, wrecks, trolley cars, esp. interurbans; also old time Stereoscope views. Wants to hear from David P. Morgan.

(*) ELMER KREMKOW, 1406 Ash St., Detroit 8, Mich., has hundreds juice pix, many very rare, to trade for juice, Diesel pix.

JULES KRZENSKI, 79 Moses Lane, Southampton, N. Y., will buy tts., rulebooks, clearance cards, emp. tts., tr. ords., all rds.; also *Loco Fireman's Journal.*

DAVID KURSTIN, 935 15th St., S. E. Washington 3, D. C., has *Nat'l Geog., Trains, Off. Guides, RR. Co, Mags.,* N&W booklets, for best offer any or all items; sell, trade wreck pix; has historic tkt. Philipsburg & Sus. RR.; good ry., transit maps. Wants *Trains* '41; Jan., May, Oct., Nov.

KLINE LAMBERT, 121½ Douglas St., Omaha, Neb., has 3x8, 4x10 builders pix, 5x7 service pix for sale. Wants size 616, p. c. pix Tenn., Ala., Ga. 2-8-2 type, Savannah & Atlanta 2-8-2, Winston-Salem southbound. Write for list.

WM. W. LIPSCOMB, East 2nd St., Farmville, Va., wants data, pix, p.c.s, etc. lake, river steamboats Ala., Fla., Ga., Tenn., Tex., Calif., Ark., Ariz., Colo., Alaska, S. A., Africa, others; also cards, env., showing boat, Co. names; postmarks of postal services.

(*) STEPHEN D. MAGUIRE, 802 10th Ave., Belmar, N. J., sells 5x7 prints of Elmira, N. Y., doubledecker, from original glass plate, 30c postpaid. Wants old trolley postcards.

WM. McKEOWN, 515 Kenwood Ave., Ottawa, Ont., Can., will sell size 620 pix CN, CP, Rutland, D&H, CV, 5c ea.; List and 2 samples for dime. Wants emp. tts. CN, CP.

(R) NELS L. McKIERMAN, 2415 Bank St., Keokuk, Ia., will sell *Railroad Magazine,* tts., emp. tts., size

116 pix, negs., tr. ords., other railroadiana to trade. List for stamp.

JOSEPH McMAHON, 15 Adrian Ave., New York, N. Y., will sell 18 N. Y. World's Fair rr. pix, 18 for $1, 18 NY 9th Ave. el pix, Third Ave. trolleys; also sells '40, '41 *Off. Guides*, $1. p.p. east of Miss. River.

R. W. MARSHALL, 4059 Century Blvd., Inglewood, Calif., wants to contact old correspondents.

GEO. MOCK, Jr., R. D. No. 1, Box 205, Albany, Ga., has list ACL, C of G, Ga. Northern, Sou, other size 116 pix SC rds. Wants ACL pix.

(R) G. F. MONUGE, Wentworth Sta., Cumb. Co., N. S., Canada, will trade 36 issues *Railroad Magazine* '43, '44, '45, perf. cond., for one copy *Railroad Avenue* by Freeman H. Hubbard.

(*) ROSCOE C. MIGLIORE, 2204 East 6th St., Apt. 1, Tulsa 4, Okla., wants to buy pix abdn. Berkshire Str. Ry. in Mass. Send list.

BRUCE MILLER, 924 North 25th St., Milwaukee 3, Wis., will sell *Loco Eng. Journal*, Oct. '33; July '36; May '35, 7, '34, '38, '39; *Model Ry. News, Famous Amer. Tr., On the Railroad.* Wants old Soo line tts., 1886 to 1908.

(R) GILBERT MILLER, 6601 Broadway, West N. Y., N. J., wants Sept.-Nov. '46, *Railroad Magazines.*

W. P. MILLER, 1447 Church St., Rahway, N. J., wants Jan., Apr., July, Oct. '24, *Baldwin Loco Mags.*, also others. State price, cond.

BOB MOORE, Box 4316, Portland 8, Oreg., wants to buy pix, negs. pass. engs. MKT, SLSF 1500 Class, FW&DC 550 class, SP 4323; also has pix NP, GN, UP power to sell, trade.

EARL MOORE, 3746 Sheffield Ave., Chicago 13, Ill., (pres. Street Car Cancel Society), offers article on Street Railway Post Office System, listing of RPO titles and interurban RPOs. Send 10c to Fred Sangford, 100 E. Colorado St., Pasadena, Calif.

CURTISS L. NELSON, 1958 Pinehurst Ave., St. Paul 5, Minn., will pay $1.50 ea. for 1939 and '40 Statistical and Outlook issue of *Railway Age*, good cond.

(R) WALTER NELSON, 41 Maltley Pl., New Haven, Conn., will sell *Railroad Magazines*, July, Aug., Oct., Dec. '13; '36 to date, exc. May '41; Mar., '42, July '46; also 31 order issues in 1892 on famous old air line div. New Haven RR., good cond., will sell, swap for emp. tts., esp. Colo. Midland, CNE, NDC.

(R) DAN NOONAN, 120 No. Pierce St., Galion, O., will sell or trade *Railroad Magazine*, '39 to date; *Model Builder, Model Railroader, Model Craftsman, Miniature RR., Model Maker, Hobbies.* All good cond.

JOHN J. PANZER, c/o Fluhr, 106 Second Ave., Garwood, N. J., will buy *Loco Cycl.*, good cond. '38, '39, '40; will also buy *Trains*, good cond., Mar., Apr.; Feb. '42.

(R) EARL W. PARRY, R. D. 2, Granville, N. Y., will sell, trade for p. c. size pix eng., *Baldwin Loco Mags. Railroad Magazines, Trains*, emp. tts., D&H RR. Bulletins, excell. cond.

EBEN PEABODY, Jr., Riverside Dr., Augusta, Me., will sell *Model Builder*, good cond., Jan. '40 to Dec. '46, in filing case $5. p.p.; no single issues sold.

OLIVER C. PECTAL, Box 171, Northfield, Conn., will sell *Trains*, vol. 1 No. 1 to vol. 7 No. 3, compl., unbound. Highest offer plus post. takes lot.

(R) RICHARD PEDLER, 1413 Jefferson St., Muskegon Heights, Mich., will sell *Railroad Magazines, Trains, Model Railroader*, '43 *Car Builder's Cycl.* all recent issues, no duplicates, $7.50.

EDW. E. POTENZA, Rt. 2, Downers Grove, Ill., wants info., pix on old Vandalia RR.

D. REED, 1604 Grange Ave., Racine, Wis., has many rr. cloth emblems, maps, tts., some pix. Wants wreck pix. Send for list, prices.

WM. GARNET REEDS, R. R. 1, Reaboro, Ont., Can., will sell entire pix, neg. collec. PNK, CPK negs., Canadian, U. S. rd. pix. Will consider part of collec. on an HO-gage eng. Write for details.

(R) ROBT. J. REICH, 161 Thornton St., Hamden 14, Conn., will sell *B&O RR Mech. Eng., Rwy. Age, Along the Line, IC, C&O, AT&SF, MoP, ACL News, RR Trainman, SigJour, BLF&E* mags., *Railroad Magazine*, Nov. '34, Apr. '41; UF, EB&L, TLLmb, Ont FC, Eda, D&N, SIRT, D&MN, IT, PS&N, B&SR, Milw., Ind. Gr., etc. to sell or swap. Buys, trades pub., emp. tts. short lines. Wants info. Wis. logging rds.

(R*) J. B. RELYEA, 35 Wyneva St., Phila., 44, Pa., will sell *Railroad Magazines*, good cond., old copies back to '30; trolley trfs. free for frt., lot of tokens for sale; *Trolley Talks*, maps, free; emp. mags. for post.

(*) JOSEPH R. RHODEN, Jr., 1244 N. Dearborn

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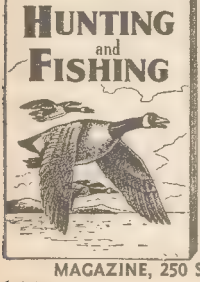

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Pkwy., Chicago 10, Ill., wants tts., emp. tts., passes all types, old tkts., trsfs. before '35, str. car tokens, pix, rrs.'s, etc., info on elec. n. g. lines. Send list. Send stamps for items, mostly n. g., rr. plans.

D. M. RICE, 149 Oakland St., Springfield 8, Mass., wants Belfast & Moosehead Lake emp. tts. to compl. file.

(*) EDW. ROSENTHAL, 2301 Kings Highway, Brooklyn 29, N. Y., wants to buy str. car, bus tokens.

(R) ELVIN E. RUSSELL, 101 Conant St., Danvers, Mass., sells *Railroad Magazine* June, Oct., Dec. '31; '32 thru '46, $46. Write first.

(R) C. S. RYAN, 1435 Cabrillo Ave., Venice, Calif., will sell, trade *Railroad Magazines*, Sept. '30 N.B.C., Oct., Nov., 2 pgs. clipped; Dec. '32; Dec. '35, Dec. '41; Mar., Aug., Sept. '42; July '43 N. B. C.,; Jan. '44. Wants Apr. '30; Dec. '33; Sept.-Dec. '34; Oct. '39; Sept. '43.

(R) E. RYDER, 22 No. Main St., Brewster, N. Y., will sell *Railroad Magazine*, '35 to date, excell. cond., $3 per yr., plus post.

(R) JOHN SHAUGHNESSY, Wellsville, N. Y., wants steam trac. eng. catalogs, *Railroad Magazine* about *Bangor & Aroostock*.

GARY G. SHELTON, 1622 Collingwood, Detroit 6, Mich., wants to buy tr. ords., pref. name rds.

(R) JOHN A. SNOOK, 216 Potawatomi Dr., Elkhart, Ind., will sell *Railroad Magazine*, Apr., May, Sept. Dec. '36; '37 thru '39; '40, exc. Apr., July; '41; '42, exc. July; '43, exc. Feb., Mar.; '46, exc. Sept.; Jan.-Apr., June '44; Sept. '45; Feb.-Apr. '47, perf. cond. to highest bidder. Buyer pays postage.

THOMAS W. SOLOMON, Box 381, St. Augustine, Fla., will buy size 116, 616 pix Florida East Coast, Atlantic Coast Line locos. Will sell 60 copies *Baldwin Loco* to highest bidder.

(R) EDW. H. SPRANGERS, 2228 West Oakdale St., Philadelphia 32, Pa., has 128 copies *Railroad Stories* '30 to '42 fine cond. Make offer.

(*) JAN STATTIN, Lundgren, SJ, Solleftea, Sweden, will swap pix, negs., steam, elec. locos. Collects esp. gages, locos. Wants to corres. with any nationality.

MURRAY F. STONE, 38 Winnifred St., Box 819, Smiths Falls, Ont., Can., offers large selec. fine size 620, 616, 122, 4x6 pix CP,CN, Am. rds., few European. List, sample 5c. Also has few size 620 negs, for sale, trade. Wants negs. size 616, 122 CP, CN, Am. Diesel, heavy steam power.

(*) W. K. STROMAN, 2501 N. W. 58th St., Miami, Fla., has Miami Transit Co. fare tokens to swap equally for other cities; also, trsfs., school tkts., etc.

RUDY TARIEL, Rt. 2, Box 1302, Del Paso Heights, Calif., wants to buy Amusement Pk. type loco similar to one pictured in Nov. '42 *Railroad Magazine*.

ROBT. THOMPSON, Jr., 3rd St., Rainy River, Ont., Canada, will sell collec. 64 builders pix, 3x8 size, latest U. S., Canadian rds., 10c ea.; entire collec. $6.

WALTER UNRUH, Congels Rd., New York City, N. Y., has mounted stamp album, 600 diff. stamps, worth $20. according '46 *Scott Stamp Catalog*; will trade for best offer in *Trains*.

(R) LOWELL E. WAGNER, 3406 Robinwood Dr., Ft. Wayne 5, Ind., will sell *Railroad Magazine* Jan. to Dec. '44; Off. Guides Dec. '44, July '46; *Engineers Journals*, Mar., Nov. '43; *Model Builder*, Apr., Nov., Dec. '40; Jan., Mar., Dec. '41; 66 tts of 34 rds Entire lot $10, plus post.; good cond., few missing covers.

(R) F. C. WALKER, Hitchcock, Tex., will sell, trade *Railroad Magazine*, '45 to date; *Trains*, '43 to date; *Model Railroader*, July '39, Feb. '40 to date; *Model Craftsman*, 3 copies, 3 *Model Builder;* 3 *Loco Eng. Journals*, 8 *Loco Firemen & Eng.*

F. H. WARNKEN, 304 Cottage Grove St., Urbana, Ill., has tr. ords. to trade for other railroadiana.

JIM WATKINS, 2424 Griffin Ave., Los Angeles 31, Calif, will sell railroadiana, includ. PE. R4, switch lists, waybills frt. bills, emp. tt. sheets, bulletins, spec. rules, tr. orders, clearances, pass. traffic Dept., circulars, etc.; also Harbor Belt Line material; list for stamp.

(*) LES WESTLING, 37 Hillwood Pl., Oakland 10, Calif., offers 3 forms trsfs. United RR of San Francisco rts. since bus-ized for five contact size 116, or enlarged so, pix. any juice rd.

B. ALEXIS WILKS, Notre Dame, Ind. has B&O clergyman's permit pass for half-fare, dated Dec. 31, '05; will sell to highest bidder.

(R) GEO. H. YATER, 337 Kenwood Way, Louisville 8, Ky., will sell *Railroad Magazine*, '35 to '46, excell. cond. to best offer by lot or yr.; also various issues *Baldwin Magazine, books, Model.*, emp. tts., pix.

Reader's Choice Coupon

Stories, features and departments I like best in the July issue are:

1. .....
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3. .....
4. .....
5. .....
6. .....

Best photo is on page.....

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Occupation .....

Address .....

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Railroad Magazine, 205 E. 42nd St., New York City 17.

(R) F. W. ZIRBEL, 3290 Portland Rd., Salem, Ore., will sell to highest bidder *Railroad Magazine*, Sept. '35; Mar. '37; Jan. '38; Sept. '39; Jan., May-July, Sept., Oct., Dec. '40; Jan-Mar., May-July, Dec. '41; Aug., Nov., Dec. '42; '44; '45; '46; *Trains.*, '45, exc. Feb.; Jan., Feb., June, July, Sept., Oct. '46; none clipped, 2 missing front covers.

Model Trading Post

EARL E. ALMOND, 2231 Spring Grove Ave., Cincinnati 14, O., will sell or trade *RR. Eng., RR. Signaling, RR Stories*, excell. cond. Wants *Model Railroader, Model Craftsman, Loco. Ency.* '44, '45, '40.

ROGER A. ANDERSEN, 524 Whipple St., Eau Claire, Wis., will sell Lionel 027 gage tr., good cond., extra cars, track included.

S. BLANC, 1350 Tennyson, Denver 4, Colo., will sell AF new 2-rail, 3/16 in. scale track, 12 curve, 1str., 1 automatic uncoupler, $6.; used No. 6, 75 Watt Rheostat Transformer, $3.50; O gage Hi-Speed interurban car, $15. Post. extra.

J. J. Brophy, 74 Andrew St., Kingston, N. Y., wants Ives No. 1134, running cond. not essential, or will buy any seperate parts for above loco; Ives, AF, Lionel transf. 150, 200 watt capacity.

ROBT. CORNELL, 37-08 Utopia Pky., Station A, Flushing, N. Y., wants combination AF baggage, club car, AF, Lionel water tower, AF wind-up loco. No. 16.

FRANK A. DI SANTIS, 13 State St., YMCA, Schenectady, N. Y., will sell partly dismantled ¾ in. scale English live steamer 4-6-2 *Princess Royal* without tender; 2 outside, 2 inside cylinders; all $86.

N. T. FOSSE, 108 Western Ave.. Decorah, Ia., will sell one Maerklin O gage 4-6-2 for $75., perf. cond., never used. 10c for pix.

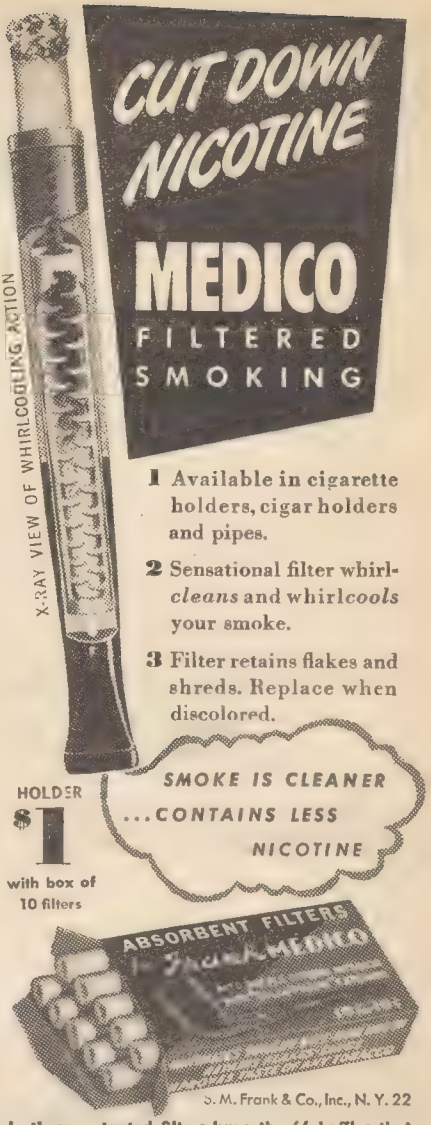
RAYMOND H. FRITZ, 5439 Delor Ave., St. Louis, Mo., will sell O gage interrurban cars, 4 with Walthers motors, ten misc. trailer cars.

RAYMOND HAHN, 341 Taylor St., Pittsburgh, 24, Pa., will sell Lionel 2820 Floodlight car, elec. couplers, Lionel 2810 derrick car, elec. couplers; '42 style couplers.

JOHN C. HANBACH, Box 103, Niagara Sq. Sta., Buffalo, N. Y., will trade pre World War I Bing. Mech. Eng. cars, track, etc.; O gage for trsf. collec.

GORDON A. JANVRIN, Hampton Falls, N. H., will trade Lionel 107 direct current reducer for 110 volts in good cond; brand new Eversharp pen, pencil, value $15.; for Lionel std. gage frt. cars.

G. T. MUNGER, 4705 Ingleside Ave., Chicago 15, Ill., wants toy wooden steam eng. for his son, cash or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DON NOONAN, 120 No. Pierce St., Galion, O., will sell or trade O gage eqpmt.

DENNIS NORRIS, 100 Liberty St., Williamsburg, Pa., will pay reasonable price for all books on model railroading, and pix for track layouts.

ROY PANKONIN, 5500 S. Francisco, Ave., Chicago, Ill., will sell new, unused O, HO gage assembled cars, locos; also, frt. platforms, stock pens. List for stamp.

RICHARD PEDLER, c/o Main Post Office, Muskegon, Mich., has 20 HO gage box, reefer, hopper, gondola, tank cars, also C&O combination baggage, pass. car, perf. cond., value $15 alone; $35. cash for lot or trade for perf. HO loco.

HARRY E. POPE, 637 Fulton St., Farmingdale, N. Y., wants old AF catalogs; will buy S gage eqpmt.

GEO. E. SWANBOROUGH, Box 335, Vacaville, Calif., wants live steam loco, perf. 4-6-2, other wheel arrangement; gage from 12 to 16 incl.

LEONARD N. TURVER, 135 W. 10th Ave., Tarentum 4, Pa., will sell 2 train layout, extra eqpmt., perf. compl. or separately. Stamped env. for list.

DONALD A. TURCKE, R. D. 1, Glenn St., Washington, Pa., wants O, 027 gage remote control switches; good cond. State price.

WAYNE VAN HORN, 202 N. Broad St., Shenandoah, Iowa, will buy new, used frt., pass, cars, having '46 Elec. Knuckle-type Lionel cplrs. to be used on Lionel 3 rail O gage track.

W. PERRY WILLIAMSON, 1061 E. Market St., Apt. 9, East Akron, O., has compl. Lionel 027 frt. tr., pre-war model, AF pass. cars; will trade for Lionel, AF loco made by A. C. Gilbert Co. Make cash offer. Wants 027 track, O, 027 cars, esp. AF stas., Lionel 225E, 225EW locos.

Flag Stops

CONVENTION of National Model Railroad Ass'n will be held August 15-17 in Oakland, Calif. Special train routed over Burlington, Rio Grande and Western Pacific is available to those wishing to join trip at Chicago. For information write Trip Chairman E. H. Beck, 921 Box Bldg., Detroit 1, Mich.

AKRON Railroad Club meets at YMCA at 8 p. m. on fourth Thursdays, programs including movies of steam and electric lines. Officers: Bruce Triplett, pres., Robt. W. Richardson, sec'y, 34 S. Union Street, Akron 8, O.

NEW YORK CHAPTER of NRHS has been established recently. For details about membership write Francis J. Goldsmith, Jr., 139-42 58th Ave., Flushing, N. Y.

PITTSBURGH HO Railroad Club invites all model rails to their club rooms at 1013 Penn Ave., Pittsburgh, any Monday night; third Monday, operating night.

RAILFAN excursion over narrow-gage lines of Denver & Rio Grande Western and Rio Grande Southern on July 14th will be limited to 100 persons making reservations before July 3rd. Fare including tax, $35. Nolan W. Black, 6015 Burwood Ave., Los Angeles 42, Calif., will provide all information.

FANTRIPS sponsored by Buffalo Chapter of NRHS include: June 15th, ride over Pennsyl's Rochester to Olean trackage and return, "Grand Canyon of the East"; July 20th, over New York Central's Fallbrook branch, Buffalo to Pine Gorge; October 12th, back-country branches of the Lehigh Valley.

PHOTOFAN field day over Pennsy-Reading Seashore electric territory will be held June 15th, under sponsorship of Joint Railfan Trip Committee, Lackawanna Terminal, Hoboken, N. J. Cost, $2.75; train leaves Camden at 11 a. m.

S-GAGE railroading. Basin Missouri Ry. is building and increasing rolling stock at 2713 S. 13th St., St. Louis 13 Mo. Owner Francis Karr

RAILROAD BOOSTERS have full schedule of trips for summer. June 15, Santa Fe Kite Route or San Bernardino shops; August 7th, Espee to Hueneme and Ojai Valley, via Simi Valley. Full information, A. Wayne Melching, Box 5279, Metropolitan Station, Los Angeles 55, Calif.

TRAINRIDE over B&M to Hillsboro, N. H. via Nashua leaves N. Sta. Boston at 9 a.m., June 29. For details contact N.E. Railroad Enthusiasts, Cyrus Hosmer Jr., 34 Chester Rd., Belmont 78, Mass. Cost: $3.87.

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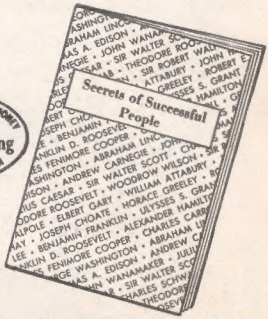

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